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SAMUEL SQUIRE SPRIGGE, M.A., M.D. CANTAB.,
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Inaugural Address

ON THE

MEDICAL NEEDS OF INDIA.

Delivered at the London School of Medicine for Women on Oct. 1st, 1913,

BY SURGEON-GENERAL SIR CHARLES PARDEY LUKIS, K.C.S.I., M.D. LOND., F.R.C.S. ENG.,

DIRECTOR GENERAL, INDIAN MEDICAL SERVICE.

DR. GARRETT ANDERSON, LADIES, AND GENTLEMEN,—I have in the first place to express my sense of the honour done me by your council in asking me to deliver the inaugural address this afternoon, and to say how very pleased I am to be able to accept the kind invitation extended to me. The subject which I have selected is the Medical Needs of India, my reason for this choice being that in my opinion one of the most urgent needs of India at the present time is an adequate supply of suitable and fully-trained medical women.

The problems connected with the preservation of the public health in India are extremely complex, especially as regards the remedying of sanitary defects, the education of the people in personal and domestic hygiene, the saving of infant life, and the protection of women from the dangers incidental to childbirth.

SANITARY QUESTIONS: MALARIA, PLAGUE, AND TUBERCULOSIS.

The time at my disposal being limited I do not propose to-day to deal with the larger sanitary questions. Neither is it necessary that I should do so. Under present conditions such questions are outside the scope of the work of the medical woman in India. I must, however, say a few words on the subject of the education of the Indian public in personal and domestic hygiene, because it is the prejudices of the vast majority of the populace, their conservatism, and their suspicion of any innovation or change, which constitute such a formidable obstacle to rapid progress in medical or sanitary matters. In order to illustrate my point let us consider briefly some of the conditions influencing the spread in India of those three deadly diseases—malaria, plague, and tuberculosis. Malaria, as you know, is conveyed from man to man by certain species of anopheline mosquitoes. For a long time it was thought that all malaria arose from swamps, but recent observations have shown that this is not the case. Thus the researches of Liston and Bentley have proved that the severe epidemic of malaria from which Bombay city has suffered of recent years does not arise from the surrounding swamps, but is conveyed by a species of domestic mosquito which breeds in the wells attached to private houses. Similarly, much of the malaria which occurs in up-country stations is due to the breeding of mosquitoes in collections of stagnant water in and around habitations. It is obvious, therefore, that the attempts of Government to stamp out malaria are apt to be nullified if householders refuse to close down private wells, which are a danger to the community, or persist in allowing broken earthen pots, old kerosene oil tins, &c., to accumulate in their yards and thus furnish breeding grounds for mosquitoes.

Then again, as regards epidemic plague, the history of which as it occurs amongst human beings is as follows. Plague occurs amongst the rats in a house. So soon as the rats begin to die the remainder at once migrate from the infected spot, but they leave behind them their nests, and in these nests are a large number of rat-fleas which contain plague bacilli owing to their having sucked the blood of infected rats. Presently these fleas become hungry, and, finding no rats, they sally forth and bite human beings, thus infecting them with plague. The question of the prevention of plague is therefore chiefly one of domestic hygiene, and it is essential that the public should realise the danger of permitting collections of rubbish in and about their houses behind which rats can build their nests. They should be taught also not to throw about in the vicinity of their houses remnants of food which will attract rats, and, in fact, every precaution should be taken to prevent the rat from becoming a domestic animal. The rat is not a domestic animal in the houses of Europeans in India, but it is a domestic animal in the houses of a large number of Indians, and this I believe to be the explanation of the difference in the plague-incidence on the two races.

I now come to the subject of tuberculosis. Nowadays there is a great boom in tropical diseases, and it is right that there should be, but one ill effect of this is that it is apt to distract attention from diseases which, although not, strictly speaking, tropical in origin, nevertheless create enormous havoc in tropical countries. The chief of these is tuberculosis, the mortality from which in some of our larger native cities exceeds that of either Birmingham or Glasgow. Tuberculosis in India, however, differs from that disease in England in one striking particular—it is invariably of human and not of bovine origin. For this there are two explanations: the first is that Indian cattle are practically free from tuberculosis. When I made this statement at the recent Conference on Infant Mortality it was received with a certain amount of scepticism, but I am glad to learn from competent observers that similar conditions prevail both in Ceylon and in the Malay Peninsula. The second explanation is that Indians never drink unboiled milk—consequently milk may be regarded as a negligible factor in the spread of tuberculosis in India; and the disease is always conveyed by human agency as the result of defective ventilation, overcrowding, and indiscriminate spitting. The Government and the local authorities are doing all in their power in the matter of town planning and the provision of sufficient light and air in tenements, and by the prohibition of expectoration in public places, but their efforts will be of little or no avail until the Indian public learn the danger of sleeping in closed rooms and of permitting indiscriminate spitting within house limits.

THE TEACHING OF PERSONAL AND DOMESTIC HYGIENE.

Hitherto the teaching of personal and domestic hygiene in India has been very unsatisfactory. It has been regarded merely as a school lesson to be learnt by rote, and I doubt very much whether the scholars attach any importance to it or regulate their lives by its precepts. You may, for instance, hear a boy state in school: "I must eat clean food: I must drink pure water," and then as soon as school is over he will scamper off and eat sweetmeats from a fly-infested open stall in the bazaar, assuaging his thirst with a draught of water from the village tank, which is indiscriminately used for drinking purposes, for bathing, and for the washing of clothes.

Efforts are now being made both by Government and by the St. John Ambulance Association to render instruction in hygiene more practical by means of lantern demonstrations, popular lectures, and the distribution of illustrated leaflets, but even if these efforts are as successful as it is hoped they may be, they will not reach the root of the evil, for they will only instruct the men of the community. This is my reason and excuse for bringing the matter to your notice to-day. Ladies who have spent all their lives in England are apt to regard their Indian sisters as being very downtrodden and oppressed. This is a grave mistake. Out of doors the man is lord of creation, but once he is inside the house he is absolutely controlled by his wife and mother in all matters concerning domestic economy and the family life. Indeed, I know of no country where the woman is more absolutely the mistress of the house than she is in India, and I am convinced that we shall never make any real headway in promoting the knowledge of domestic and personal hygiene until we have convinced the women of India as to its necessity, and they have thrown their powerful influence into the scale. Here the medical man is powerless—the *purdah* bars the way, and it is to the medical woman that we must look for educational propaganda inside the zenana.

I have dealt with this subject at some length because I wish to lay stress upon the fact that the work of medical women in India should not be confined merely to the care of women and children. They may do admirable pioneer work by disseminating knowledge of the laws of health and the value of preventive measures, thus conferring an incalculable boon upon the populace as a whole, both by showing them how to prevent the spread of communicable disease, and by teaching them how to increase the natural powers of resistance against pathogenic germs.

INFANT MORTALITY.

The subject of infant mortality in India has of recent years attracted considerable attention. That it is a subject imperatively demanding such attention cannot be denied. In 1911, 4,752,152 male children and 4,457,551 females were born in India, and in the same year the actual number of deaths of children under one year of age was 1,016,823 males and 873,677 females; that is to say, roughly speaking, about one-fifth of the children born died within the first year of their life. It is very difficult to arrive at the actual causes of this high rate of mortality. The figures at our disposal are often of doubtful accuracy, and the comparison of figures from different localities is most fallacious. A relatively high reported death-rate frequently means merely that the registration of vital statistics in this particular locality is carried out more satisfactorily than in some other place with a more enviable but totally undeserved reputation, and one of the greatest of our present necessities is an improvement in our methods of collecting vital statistics. In most of the large cities and towns of India the number of births and deaths reported probably approximates to the truth, but with regard to the causes of death even approximate accuracy is rarely attained. This is inevitable when the diagnosis of the cause of death is in the vast majority of instances made by persons with no medical training. Moreover, when death is due to infectious disease wilful concealment frequently occurs.

As the result of inquiries made in four large towns in India, Major Robertson, the Sanitary Commissioner with the Government of India, is of opinion that the causes of infant mortality, taken in the order of their importance, may be classified under four headings: (1) Malaria, operating both directly on the infant and indirectly through the mother; (2) diseases due to insanitary surroundings; (3) diseases due to ignorance on the part of the mother with regard to the feeding and care of the infant; (4) accidents of childbirth and diseases attendant thereon.

As regards the last two groups, I believe that early marriage is very largely responsible for the high rate of infant mortality in India, where marriage is almost universal and at the earliest practicable age; and there can be no doubt that much of this mortality is due to the ignorance and immaturity of the mothers. The instruction of these young mothers, therefore, in all matters connected with antenatal and postnatal hygiene is a point deserving of consideration by all medical women practising in India.

Another adverse factor vying in importance with that of early marriage in determining the excessive mortality is to be found in the primitive methods of midwifery almost universally in vogue. Not only do such methods lead directly to the death of the infant from tetanus and other infections, but they also indirectly increase the infant mortality by depriving the children of their natural nourishment, for it must be remembered that, owing to the unsatisfactory substitutes given as food to children deprived of their mothers' milk, the death of the mother, or even the drying up of her milk as the result of sepsis, in the majority of cases practically seals the fate of the child. I need not dilate upon the suffering and loss of life which result from these primitive methods of midwifery. As you probably are aware, in India the deaths in childbed are about three times as numerous as they are in England. The only remedy for this deplorable state of affairs is that medical women, by their precepts and practice, should create confidence in modern midwifery and devote themselves to the systematic instruction of the native midwives.

THE WOMEN'S MEDICAL SERVICE FOR INDIA.

I think I have said enough to bear out my opening statement that one of the most urgent needs of India at the present time is an adequate supply of suitable and fully trained medical women, and I now pass on to the consideration of the manner in which it is proposed to supply this need.

The work of supplying female medical aid to the women of India is chiefly performed by two voluntary agencies—that of the missionaries and what is generally known as the Lady Dufferin Association. Of late years the work of the latter association has been subjected to much criticism, and there can be no doubt that the conditions of service have not been such as are calculated to attract the right stamp of medical woman. Various complaints have been made, especially as regards subordination to men, liability to sudden dismissal, absence of incremental rates of pay or provision for retirement, or any definite rules as regards furlough and study leave. I do not propose to enter here into the controversy that has raged round this subject, but I shall merely state for your information the manner in which it is now proposed to redress the legitimate grievances and improve the position of medical women serving under the Dufferin Association.

In the first place, it may be as well to mention that the Government of India have decided definitely against the creation of a State service of medical women; they have, however, approved of a grant of £10,000 per annum for a service of medical women under the Central Committee of the Dufferin Association. This service will be called "The Women's Medical Service for India," and I have received the permission of the Central Committee to sketch out for you in outline the conditions of service which received final sanction at the meeting held in Simla early last month.

The service in the first instance will not exceed 25 first-class medical women, one-fifth of whom will constitute a leave reserve. Its members, subject to certain provisions, which I will mention later on, will be under the direction and control of the Central Committee of the Dufferin Association. I may mention here that there is already one medical woman serving on this committee, and that the question of adding a second is now under consideration. Recruitment for the service will be made in two ways: (*a*) *In India*, by a medical subcommittee of the Central Committee which shall include the Director-General of the Indian Medical Service, the Surgeon to His Excellency the Viceroy (who is also the honorary secretary to the Central Committee), and a first-class medical woman. (*b*) *In England*, by a subcommittee consisting of a medical man and two medical women conversant with Indian conditions, to be nominated by the Home Committee of the Dufferin Association. Such subcommittees will perform the duties of a Medical Board, examine candidates for physical fitness and give permission to return to duty after invaliding, and in India the subcommittee will have power to appoint temporary local boards in cases of emergency.

The central committee will decide what proportion of the members of this service shall be recruited in England and in India respectively. In the original constitution of the service duly qualified medical women who are already in the service of, or who have rendered approved service to, the Dufferin Association will have first claim to appointment, and thereafter special consideration will be paid to the claims of candidates who have qualified in local institutions and of those who are natives of India.

All newly appointed members of the service must be British subjects. They must be not less than 24 or more than 30 years of age at the time of recruitment, and they will, except under special circumstances, be retired on attaining the age of 48. They must possess a medical qualification registrable in the United Kingdom under the Medical Act or an Indian or colonial qualification higher than the L.M.S. and they must produce certificates of health and character. They will engage for general service anywhere in India or Burma, and they will then be appointed by the central committee to serve in different provinces. On first appointment they will serve a period of probation in one of the larger hospitals, extending in the case of those recruited in England to six months and in the case of those recruited in India to three months. At the end of such period of probation their appointment will be confirmed or terminated, as the case may be, by order of the central committee, and after confirmation service will be terminable at any time by three months' notice on either side.

Members of the service will receive a salary of Rs.350 per mensem during their period of probation, and thereafter a salary of Rs.400 from the first to the fourth year inclusive, Rs.450 from the fifth to the seventh year, Rs.500 from the eighth to the tenth year, and Rs.550 after the tenth year, but no member will be confirmed in the Rs.400 grade unless she passes her examination in the vernacular within one year of her appointment. In addition suitable quarters will be provided free of rent, or house rent will be given in lieu thereof. There will also be a provident fund as a provision for retirement. Members of the service will draw travelling allowance at the usual rates, and they will be entitled, in addition to the usual privilege leave, to eight months' furlough after four years' service and to study-leave up to nine months. Whilst on furlough they will draw half-pay and two-thirds whilst on study-leave. They will be permitted to engage in private practice, provided that such private practice does not interfere with the performance of their official duties.

When members of the service are appointed to provinces they will forthwith become subordinate to the provincial committee which shall have powers of punishment, including suspension, but the power of removal from the service or dismissal for inefficiency, misconduct, or other valid cause, will be vested absolutely in the central committee. Any member of the service who has been recruited in England, in the event of non-confirmation at the end of the period of probation or on removal or dismissal, will receive a sum sufficient to cover her return journey to England. Every hospital will be in charge of a local committee, and the medical woman in independent charge of such hospital will be entitled to attend all meetings of the local committee. She will have full professional control of her hospital and such powers of administrative control as may be determined by the authorities financially concerned. She will not be under the civil surgeon in any way, but should she wish to do so, she can always call him in for professional assistance or consultation.

As regards the inspection of women's hospitals, it is proposed to associate with the Inspector-General of Civil Hospitals one of the senior medical women in each province, who will receive extra pay and travelling allowance for this purpose, but she will not be a full-time officer. She will make her visits of inspection in addition to any which the Inspector-General of Civil Hospitals may think fit to make himself, due regard being paid to *purdah*. She will also be expected to give sympathetic judgment, opinion, and advice to the younger women in charge of hospitals. It is proposed also that the inspection of the minor female branch dispensaries shall be entrusted to the medical woman in charge of the large hospital at the headquarters of the district concerned.

Lastly, the central committee, who will now be mainly responsible for the salaries of the medical women of this service, hope that the provincial committees will devote the funds they will thus save to increase their staff of female assistant surgeons, who will work as assistants to the medical women in charge of the larger hospitals.

REMARKS ON THE SCHEME.

This, ladies, is the scheme, which I think you will agree redresses all legitimate grievances and gives the medical woman in India an assured and definite position. It requires no further explanation on my part, but I should like, with your permission, to reply to one criticism that has been made on it, and also to offer a word of advice to any candidate who may think of entering the new service. The criticism to which I refer is to the effect that the rate of pay on first joining is inadequate, and that it will not attract the right type of woman. In reply to that I would point out that when you take into consideration the free house, the terms are better than those offered to young officers of the Indian Medical Service. Moreover, from the very beginning the medical woman has the opportunity of private practice, whereas the young officer of the Indian Medical Service spends his first five or six years in military employ, where he can have little or no private practice, whilst he has in addition all the expenses incidental to regimental life.

My word of advice refers to this same question of private practice. If you wish to be of real service to your poorer patients and also to be a successful practitioner amongst the better classes I recommend you to devote your six months of probation not merely to the study of tropical diseases, but also to learning the language and to making yourself acquainted with the customs and prejudices of the country. Learn to speak Hindustani as it is spoken by educated Indians; be not content with the horrible jargon that the average European uses in conversation with his servants. Study, moreover, Indian prejudices, especially as regards rules of diet in connexion with illness. If you fail to do so, much trouble awaits you. When you are called in to see an Indian patient, after the diagnosis, prognosis, and treatment have been discussed, the last question that will be put to you is, "What about diet?" If then you order an article of diet which according to Indian ideas is contraindicated in the class of disease with which you are dealing; if, for instance, you commit the horrible blunder of ordering milk in a case of bronchial catarrh, or rice for a patient suffering from malarial fever, the chances are that so soon as your back is turned your prescription will be torn up and you will never be called in again by that family. Above all, do not fall into the grievous error of regarding these prejudices as nonsensical. The longer you live in India and the more intimate your connexion with Indians the greater will be your appreciation of the wisdom of the ancients, and the more completely will you realise that the West still has much to learn from the East.

A few more words and I will bring this long discourse to a close. It is obvious from what you know of the size of India and from what I have told you as regards the medical needs of that vast continent, that these needs cannot be supplied merely by European agency, whether it be that of medical men or medical women. If, therefore, female medical aid to the women of India is ever to become a reality it will be necessary to utilise indigenous talent, and one of the most important duties of the new service of medical women will be to train Indian women and domiciled Europeans and Anglo-Indians for the profession of medicine. Hitherto, owing to the absence of a medical school exclusively for women, it has been practically impossible to obtain Indian women of a suitable class, but this difficulty has now been overcome. Her Excellency Lady Hardinge has collected a very large sum of money which will suffice for the construction and equipment of a thoroughly up-to-date medical college for women, attached to which will be a female hospital of about 150 beds and a training school for nurses. The Government of India has given an excellent site on the new Imperial enclave at Delhi, within half a mile of the railway station. We hope also to obtain a grant sufficient to cover the annual upkeep. This college will be entirely staffed by women, and it will offer to the new service of medical women opportunities for professorial, tutorial, and research work which they could not obtain in private practice. The construction of the college will commence very shortly, and the committee of management will consist of three women and two men. Meanwhile medical women are being, and will be, largely consulted as to its organisation, and it is proposed to appoint the lady principal a year before the college is opened in order that she may supervise the construction and superintend the arrangement of the fittings, equipment, and furniture.

I have said enough to show not only that India is in urgent need of the services of medical women, but that, under the improved conditions, it offers a splendid career to medical women of the right stamp.

I will not detain you, therefore, any longer, except to express the great pleasure it gives me that this scheme has materialised during my term of office as Director-General of the Indian Medical Service. Believe me, ladies, the members of the service which I represent are not hostile to the interests of medical women; on the contrary, we are your sincere well-wishers, and I feel very strongly that we have not deserved many of the bitter attacks which have been made upon us in recent years. India affords ample scope for physicians and surgeons of both sexes, whether they be officials or independent practitioners, and I trust that in the future the medical woman, now that all irksome restrictions are about to be removed, will cease to regard the civil surgeon as her natural enemy and will learn to look upon him as an esteemed friend and colleague, and that in the days to come medical men and medical women practising in India will work in complete harmony to their mutual advantage and that of suffering humanity.

ROYAL SANITARY INSTITUTE.—A British Columbia branch of this institute was formed in Vancouver in August. Lectures were given last winter, and it is hoped to continue the courses this year under the auspices of the institute. Dr. F. T. Underhill, medical health officer of Vancouver, is the chairman for the year, and Mr. R. Robertson the secretary and treasurer. There are 29 Fellows, Members, and Associates in British Columbia, and there is plenty of work before the branch.

Introductory Address

ON

MEDICINE AS A LIBERAL EDUCATION.

Delivered at the Opening of the Winter Session of the Medical School of the Middlesex Hospital,

By W. SAMPSON HANDLEY, M.S. Lond., F.R.C.S. Eng.,

SURGEON TO OUT-PATIENTS AT THE HOSPITAL.

Gentlemen,—My first duty—a very pleasant one—is to say a word of welcome, brief but hearty, to those who have just joined us, the new students. They may be feeling a little strange and a little lonely. Let me then assure them that to-day by joining the hospital they have made many friends, and that we older Middlesex students, their teachers, give them a warm welcome. We desire them to feel that they can talk to us freely about their difficulties in the present and their hopes and plans for the future. Potentially, they are the most important people present to-day, for to them it will be given to guard the traditions and to mould the future of this hospital. We are proud of our past, but we think more of our future, and we see it visualised in the men who have just joined us. The buildings in which Charles Bell, Thomas Watson, and Burdon Sanderson taught were full of memories, but they are disappearing, so that a new building may arise better suited to modern needs, and especially to modern methods of research. Let me tell the men who will inherit that building that the hospital demands of them their loyalty and service. It bids them cease to be isolated individuals and become members of a commonwealth, wheels in a vast machine, and parts of a great whole. The fulness of their response to that appeal will be a measure of the future greatness of the hospital, and of their personal happiness while they work within its walls.

Distinguished Men who Forsook Medicine.

In the brief time at my disposal I propose to draw your attention to the careers of some distinguished men who, after commencing life as doctors, have adopted another profession. My object in doing so is to show you that medicine is not a mere technical training, but that it forms one of the best means of developing a man's powers in whatever direction those powers are later to be applied. In other words, a medical training is a liberal education. The lifelong exercise of the art of medicine may tend ultimately to narrow the outlook, but this is an entirely separate question which does not now concern us. It occurred to me that if some of the distinguished renegades of medicine could be induced to collaborate in writing my address for me I should be doing a kindness both to my audience and to myself, while at the same time I could reserve to myself the sole merit of the authorship of their joint production. I regret to say that this well-conceived design has miscarried. I can, however, give you several authoritative estimates from men educated in medicine of its influence upon their subsequent non-medical career. Of such men the great historical prototype is the patron saint of medicine, St. Luke, the beloved physician, the biographer of his Master. Doubtless there are many men who, like St. Luke, have abandoned medicine for the ministry. The recent history of this hospital supplies an example in the person of Canon Arnott, now, and for the past 28 years, rector of Beckenham, who is a Fellow of the Royal College of Surgeons, a distinguished pathologist, and the author of a work on cancer. Canon Arnott was formerly on the staff of this hospital as assistant surgeon. In entering the ministry of the Church he realised a youthful ambition, deflected for a time to medicine by parental wishes. Canon Arnott, I believe, rigidly abstains from any exercise of his old craft of surgery, whether by way of advice or practice, and this appears to be the safe general rule of those who leave the profession. His busy life in a large parish with four churches has left him little time to keep up his old and still vivid pathological interests. But he gives me leave to tell you that while medicine has no direct value in his present field of work, the old scientific training, the long hours spent in microscopic work, the power of sympathy with suffering, the realisation of the inexhaustible study and experience needed for anything like dogmatism in the ways and by-ways of nature, the humility necessary before the baffling problems of life and disease and death—all this is of incalculable value in his present profession. He speaks, too, of the knowledge of men and affairs which medicine gives, and of the intimate acquaintance with the seamy side of life to be gained perhaps better in a hospital surgical out-patient practice than anywhere else. Such is his personal estimate of medicine as a liberal education.

Keats and Goldsmith.

Of those who have forsaken medicine for poetry the most distinguished is perhaps the poet Keats, who was a qualified medical man and a Licentiate of the Society of Apothecaries. No trace of his medical knowledge is visible in the poems, but that medicine had important lessons for him may be judged from a comparison of the two following quotations: "My last operation was the opening of a man's temporal artery. I did it with the utmost nicety, but, reflecting on what passed through my head at the time, my dexterity seemed a miracle, and I never took up the lancet again." The second quotation refers to his poem "Endymion." "Had I been nervous about it being a perfect piece, and with that view asked advice, and trembled over every page, it would not have been written, for it is not in my nature to fumble." There speaks the surgeon, trained by his profession to the initiative which is so difficult for a man of poetic temperament. It is quite possible that but for his medical training Keats's vigorous self-criticism would have overcome him, and that his poems would never have been written.

After ineffectual attempts to qualify in divinity and in law, Oliver Goldsmith obtained a mysterious medical degree in the University of Padua during the course of his wanderings through Europe. Owing to the death of his benevolent uncle at this juncture he was thrown upon his own resources. With the aid of his flute he wandered homeward through France, and reaching London, he commenced medical practice in Bankside, Southwark, a locality once the site of Shakespeare's theatre, which is now given up to gigantic warehouses. Here he was seen by a Scotch acquaintance in the tarnished finery of a second-hand suit of green and gold, with a shirt and neckcloth of a fortnight's wear. Later he appeared in a full-trimmed suit of rusty black velvet with a patch upon the left breast which he adroitly covered with his hat during his professional visits, resisting politely but firmly courteous invitations to put down his hat. Practice was slow in coming, and Goldsmith decided to try for a medical appointment in the East India Company's service, at one of their factories on the Coromandel coast. Wealth beyond the dreams of avarice seemed within his grasp, for the salary was £100 per annum with private practice, but his utmost efforts at hack literary work failed to raise the sum required for his outfit, and the fair prospect vanished. Shortly after, in 1758, he presented himself at the College of Surgeons for examination as a surgeon's mate. Though the outer man was well furnished with a brave suit of clothes made for the occasion and to be paid for with four magazine articles, the examiners rejected him. He accepted their verdict as final and abandoned medicine. It seems, indeed, improbable that Goldsmith ever possessed more than a mere smattering of medical knowledge, and this is borne out by his pathetically careful attempts to dress for the part he was so ill-fitted to play. The fate of his examination suit of clothes well illustrates his delightful character. Four days after the examination he pawned it at his landlady's entreaty to deliver her husband from a debtor's jail. The suit not being paid for, poor Goldsmith himself narrowly escaped arrest at the hands of the irate tailor.

It is worthy of note that the present distinguished Poet Laureate has the Oxford medical degree and is a Fellow of the College. Mr. Bridges has educated himself for his high calling with a persistence worthy of Milton. After leaving Oxford and spending some years in travel, he set to work to supply the defects of a classical training, and having decided that medicine offered the most direct way of getting scientific education (a conclusion which I commend to your particular attention), he entered at St. Bartholomew's Hospital, where he became casualty physician. He was also physician at the Children's Hospital and at the old Great Northern Hospital. It is not difficult to see how his poetry must have gained in directness and humanity from his years of service to the London poor, which balanced and harmonised the complex elements of his intellectual training and prevented that atrophy on the volitional side which is the bane of a purely literary career.

Law and Politics.

The lawyer's training in dialectics and in the use of the spoken word gives him an overwhelming advantage in political warfare, quite apart from the profound knowledge of business and of human nature which legal experience brings. Thus in political life the law carries all before it, while the successes of medicine have been attained rather on the administrative and diplomatic sides than in the field of debate.

The careers of the late Lord Ilkeston, formerly Dr. Walter Foster, and of Dr. Jameson, lately Premier of the Dominion of South Africa, are too familiar to need more than a passing mention. Sir George Robertson, one of the heroes of the siege of Chitral, has to his credit a long and varied record of fighting and diplomacy among the wild tribes of the Indian frontier, where he proved himself an unrivalled manager of men. Few may know that his first ten years in India were spent in the Indian Medical Service.

Among doctor-politicians must also be reckoned Dr. George Ernest Morrison, who is an M.D. of Edinburgh University. Before the age of 21 he crossed Australia on foot from north to south. His subsequent travels carried him to the most inaccessible parts of China, and on one occasion he rode from Central China to Russian Turkestan, 3750 miles, in 175 days. Present at the siege of Peking, where he won fame as the omniscient *Times* correspondent, he is now the official political adviser of the President of the Chinese Republic, a post which at present would appear to be no sinecure. His name naturally recalls that of Dr. Sun Yat Sen, the first student of the English medical school established at Hong-Kong by Mr. Cantlie, and the organiser of the movement which led to the downfall of the Manchus. Whatever be thought of the political wisdom of his stupendous achievement, his disinterested patriotism seems beyond question.

Among distinguished lawyers recruited from the ranks of medicine must be mentioned the Right Hon. Sir Robert Finlay, Member of Parliament for Edinburgh and St. Andrews Universities, and a former Lord Rector of his own University of Edinburgh. The son of an Edinburgh physician, he graduated in medicine at Edinburgh, and was then called to the Bar. His brilliant subsequent career as Solicitor and Attorney General proves, at any rate, that a medical education offers no insuperable obstacle to subsequent legal success.

Art.

The late Sir Seymour Haden, founder and President of the Royal Society of Painter Etchers, the leader, along with Whistler, of the revival of etching in England, and one of the greatest exponents of the art, was a surgeon, and no mere dilettante one, for he studied not only in London but in Paris and Grenoble, had obtained the Fellowship of the College of Surgeons, and practised as a surgeon until the age of 52. He considered etching rather as a recreation than as the serious business of his life, so that his etched plates number only about 200 in all. Perhaps he gave too much of his life to medicine. If his art had been the single passion of his life he might have been the English Rembrandt. But he had that sanity and love for a balanced life which has often character[illegible] he refused to become the sla[illegible] struggle and the same victory [illegible] Robert Browning, who managed to become a poet, and a great one, without ceasing to be a man of the world.

Mr. Henry Tonks, assistant professor at the Slade School of Fine Art, is another instance of the doctor turned artist. Many generations of students have felt for him the affection not unmingled with wholesome dread which Sir Henry Morris used to inspire here. Deeply interested in his work and his students he will permit no slack worship at the shrine of Art. Mr. Tonks has sent me a delightfully frank letter in which he says:—

[illegible] to answer your letter in a satisfactory [illegible] deal.

Mr. Tonks goes on to say that a disadvantage of medicine is that it has become so vast that a young man has to leave much unlearnt and even unthought of. Here I would dissent from him, for it is one of the greatest advantages of medicine that, like a sea training, it brings a man up against the mighty forces and the vast complexity of nature, and teaches him his limitations. This, indeed, Mr. Tonks implicitly admits when he adds: "I think the reason why some professors are bores and prudes is that they have had so little time to see the relation of their subject to anything else."

You will all admit that no actor on our stage can give advice to youth in difficulties with such suave yet overwhelming authority as Sir Charles Wyndham. His celebrated "It won't work" speech in the last act of *The Liars* is perhaps the best instance that can be quoted. It is the physician in him coming out, for Sir Charles, now an acknowledged head of the dramatic profession, is a qualified medical man, and doubtless one of the lost leaders of medicine.

Science and Literature.

Sir Joseph Hooker, the director of Kew Gardens for 20 years, and a former president of the Royal Society, who died as recently as 1911 at the advanced age of 94 years, was perhaps the last survivor of the great Victorian men of science. Like Huxley he began his career as a naval surgeon, and obtained his chance of scientific distinction as surgeon to an exploring expedition, the chance which some of us who stay at home seek at the end of a microscope, and [illegible] count themselves the kings of [illegible] from the Ross expedi- [illegible] acted as surgeon and naturalist, he seems to have experienced a violent and very natural revulsion of feeling, for we find him next among the luxuriant vegetation of India, basking in the blaze of rhododendrons. He had found his vocation. His great claim to distinction is that by his studies on the distribution of plant life he produced what amounts to a botanical map of the world; and it was medicine which introduced him to botany.

Your familiarity with Huxley's career absolves me from speaking of it in detail. Like the career of Hooker, it illustrates a great practical advantage of a medical training, to which I may here call attention. It is a key, albeit not a golden one, which unlocks the pageant of the world. In this respect it has no rival among the pacific professions. The law and even the church must stay at home when the poles have to be reached or an unknown territory crossed. But the doctor cannot be spared. The steamship companies will show him the gorgeous East and provide him with pocket money if he cares to take a voyage as ship's surgeon. There are few parts of the world to which the exercise of his profession will not take him if he so desires. His training in observation has prepared him to use his privileges; witness the careers of Hooker and Huxley. A man can hardly have a medical training without being able to say with one of Mr. Morley Roberts's characters: "I sees what I looks at," and, as explorers, doctors have been very successful. I need only recall to your memories the careers of Livingstone and Mungo Park.

Among those who have left medicine, though his heart is still with us, we must perhaps count our former colleague, Mr. Stephen Paget. Gifted with too complex an intellectual outlook, and torn between the claims of science and of literature, Mr. Paget has solved the problem of serving two masters in a unique way by becoming the literary protagonist of science. His work as secretary of the Research Defence Society is of incalculable value to the cause of science in this country.

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The Educational Advantages of Medicine.

You will see from the examples I have given you that the renegades of medicine include an unduly large proportion of men who have subsequently reached eminence in other spheres of activity. Now the class is not a large one, for few men leave our profession, a fact dependent on its inherent interest and attraction. It is then a fair inference that the study of medicine provides a liberal education, one which so develops the individual that it fits him for any of the varied calls life in its other departments may make upon him. The renegade doctor is likely to be found near the top of his particular tree. You will probably accuse me of unduly depreciating the accepted forms of liberal education, and it is perfectly true that science is no substitute for a literary and linguistic training. I maintain only that it is their necessary complement. Attempts to make science the main ingredient of school education are predestined to failure. They fly in the face of the great biological generalisation that the development of the individual is an epitome of the development of the race. The human embryo begins as a unicellular organism and passes through a stage in which it possesses gill-slits like a fish before it assumes the final mammalian form. In accordance with this principle, which seems to me to supply the key of some educational difficulties, the attention of the boy is rightly directed to the preoccupations of earlier civilisations, to language, classics, and history. A scientific man, if denied the power of expression which only a literary training can give, is deprived of most of his power to influence his fellows. But given the literary foundation, an acquaintance with natural science, the most recent achievement of the race, is necessary to complete the edifice. This training will naturally fall in the university or post university stage of education.

For the general purposes of life I believe, with Mr. Bridges, that medicine, which blends with and merges into pure science in every direction, is the best way of getting a broad general acquaintance with scientific thought. As compared with pure science it has the *advantage that it does* not exclude the human interest, and that it breaks down that morbid dread of plebeian contact, that *want of recognition* of the dignity of service, which is not infrequently seen in the educated Englishman. Goethe, who studied *medicine* and acknowledged its charm, says: "My *disgust* at the patients gradually decreased as I *learned to* forget their physical condition in the ideas *suggested by* it, which rendered possible the restoration of human form and human life." The personal service *which* the medical student cheerfully gives to the more unfortunate of his fellow citizens, the intimate contact he *makes* with their miseries and heroisms, virtues and vices, must tend to broaden his outlook on life. He who washes the *beggar's feet* may find his own hands whiter than before.

Time forbids me to discuss fully the educational advantages of medicine, though much might be said. As a *training* in resourcefulness and presence of *mind it is as good* as the fighting services, for its opportunities are daily ones.

In this connexion I may remind you of the repeated testimony borne by our national hero, the late Captain Scott, to the practical wisdom of his medical comrade, Dr. E. A. Wilson, to whose judgment one and all appealed in matters small and great. Like the middy on the torpedo boat, the medical man gets his responsibilities early. The house surgeon just qualified must be prepared at any moment to perform tracheotomy, a delicate operation in which death will call an immediate checkmate to any false move. And he must do it publicly before the critical eyes of his fellow residents. The fact that he usually does it so well shows the excellence of his previous training.

The Value of Scientific Knowledge to the State.

I have no wish to institute comparisons between medical training and the established forms of liberal *education*. As Sir Oliver Lodge said recently: "Let us *not fall* into the old mistake of thinking that ours is the only way of exploring the multifarious depths of the universe, and that all others are worthless and mistaken. The universe is a larger thing than we have any conception of, and no one method of search will exhaust its treasures."

But for this very reason some of those fortunate people who have leisure for full self-development should *complete* it through science. In our national leaders, collectively if not individually, we have the right to expect that combination of literary and scientific training which was the source of Goethe's strength. Only thus can the complexity of the universe be properly reflected in their intellectual equipment. In my opinion that is not at present the case. To take a crucial instance, I have not been able to ascertain that more than one member of the present or the last Cabinet has received an education in natural science. It is not sufficient that the man of science should be at hand to be consulted; the scientific habit of mind must be directly represented in the national councils. Let me try to illustrate the evils attending the present state of things.

Last June Mr. Balfour, whose sympathies with science we gratefully acknowledge, opened some new buildings of the National Physical Laboratory at Teddington, the institution which tests and standardises optical and other instruments and undertakes *physical* researches of public interest. Among a number of subjects it has taken up this year one alone, the testing of roads and road surfaces, touches the expenditure of *millions of public money* annually and affects the comfort and well-being of the whole nation. Is it not extraordinary that this institution—national in the fullest sense—should be dependent on private generosity for necessary extensions to its buildings? Yet such is the fact. The spectacle is as grotesque as that of a millionaire inviting subscriptions among his friends to provide his steam yacht with a compass. I present this idea to the Gilbert of the future, and suggest "We can't afford a compass, so we'll go to sea without," as the refrain of the final chorus. In sober fact, the phrase represents not inaccurately the present attitude of the nation towards science.

Lord Beaconsfield's *purchase* of the Suez Canal shares for the nation is now hailed as a stroke of financial genius. The statesman who demanded of Parliament half a similar sum for the endowment of the University of London with a department for the investigation of tropical disease would make a better investment for his country even from a monetary point af view.

Another of our statesmen, Mr. Austen Chamberlain, continuing a work begun by his distinguished father, is attempting with great personal devotion the task of raising a fund for the London School of Tropical Medicine, an institution on which, believe me, the future of the British Empire largely hangs. But while we see our statesmen supporting science by their sympathy and private efforts, we shall not find them adequately exerting their authority in Parliament in the same cause until some of them receive a scientific education. The safety and progress of the State is as much bound up with national progress in scientific knowledge as in the maintenance of an adequate navy.

You may think that I use the language of exaggeration, but when you reflect that the Panama Canal has *only* been rendered possible by laboratory investigations dealing with an obscure mosquito, suggested in their turn by Sir Ronald Ross's investigations on the mosquito which carries malaria, you will agree that I have not overstated the case. Here is a little piece of scientific knowledge which could be written on a visiting card: "The stegomyia mosquito is the vehicle which carries the organism of yellow fever from man to man." Without this knowledge the French attempt to cut the Canal ended in the waste of many thousands of lives and £50,000,000. Knowing this secret the American engineers and doctors have succeeded. It may ultimately be realised that the expenditure of money in scientific research and in the support of institutions for the advance of knowledge is *not the* mere luxury of a rich nation, but one of the surest means of increasing the national wealth as well as the national happiness.

It is interesting to note that in the opinion of Pasteur, the great French scientist, the downfall of France in the war of 1870 was due to the national neglect of science. Under the first Napoleon science had flourished. For his expedition to Egypt he had organised a special staff of scientific men to accompany him. He had such a respect for the discoverer of vaccination that he never refused a request from Jenner for the release of an English prisoner.

What happened later in France may be expressed in Pasteur's words: "A victim to her political instability France has done nothing to keep up, *to propagate and to* develop the progress of science ...... ; she has lived *on* her past, thinking herself great by the scientific discoveries to which she owed her material prosperity, but *not perceiving* that she was imprudently allowing the sources of those discoveries to run dry. ...... While Germany was multiplying her universities, ... creating vast laboratories amply supplied with the most perfect instruments, France, enervated by revolutions, ever vainly seeking the best form of government, was giving but careless attention to her establishments for higher education."

After the war it was to science that Pasteur mainly looked for the regeneration of France. His opinions might be dismissed as an expanded version of the cobbler's dictum that there is nothing like leather. They may appear as high-sounding generalities, possibly *containing a portion of* truth, but mainly expressive of a natural loyalty to his scientific colleagues, or of a narrow-minded enthusiasm. They might even be ascribed to veiled [illegible] who never dealt in vague [illegible] proving their truth. And i [illegible] apart from the human lives they have saved, the material benefits his researches brought to the brewing, farming, and silkworm industries of France sufficed to pay the vast war indemnity which the victors exacted.

You will see now why I believe that one of the most *urgent needs of the day is the presence among our leaders*, who at present receive almost exclusively a classical, a literary, or a legal education, of a larger number of men who have had a scientific training. To those ambitious young men who aspire to mould the destinies of their country I would say: Leave the past when you have attained your degree in arts and come where knowledge is alive and [illegible] strenuous five years [illegible] the mental discipline [illegible] In your subsequent career of politics or public service of whatever kind you will find *that the time has been well spent*, and that the skill you have acquired in applying precise knowledge of many kinds to the service of humanity finds many applications in the wider spheres to which you may be subsequently called.

Introductory Address

ON

THE WORK OF THE MEDICAL PROFESSION IN INDIA.

Delivered at the Opening of the Winter Session of the Medical School of St. Mary's Hospital on Oct. 1st, 1913,

BY SIR JOHN P. HEWETT, G.C.S.I.,

LIEUTENANT-GOVERNOR OF THE UNITED PROVINCES OF AGRA AND OUDH.

GENTLEMEN,—The invitation from Sir John Broadbent to preside at this gathering was as agreeable to me as it was unexpected. It is a great honour to be given the opportunity of expressing in public my admiration for the accomplishments and devotion of the profession which the students at St. Mary's Hospital Medical School have chosen to follow. It is one of the noblest that a man can undertake, and perhaps the only one that will command the same regard and esteem to the end of time.

When asked to give an address on this occasion I found [illegible] *has been effected in India by medical men, and to endeavour* to convey some idea of the enormous field that still lies open to them there.

VITAL STATISTICS OF INDIA.

The registration of births and deaths has only been attempted in India for about the last 40 years, and, as most of the reporting agency is illiterate, the causes of death are very incorrectly recorded though the number of deaths is reported with fair accuracy. Specific fevers, such as malaria, small-pox, and influenza; abdominal diseases, such as cholera, dysentery, and diarrhœa; and lung diseases, *such as tuberculosis, pneumonia*, and bronchitis, are those which cause the greatest havoc among the Indian population. You will readily understand how difficult it is to ensure even approximate accuracy in reports of the cause of death. Moreover, nearly 71 millions of the population of 325 millions live in the Native States to which the rules and regulations in force in British India do not apply. My remarks therefore refer only to the 254 millions resident in British India. The annual death-roll in British India amounts to about 7½ millions, of which about 40 per cent. [illegible] ordinary that the country should, in spite of them, be, so far as the increase of its population is concerned, in a condition which would be *envied by some European nations*. The average death-rate during the past 10 years has been 34 per 1000, or, if deaths from plague are eliminated, 31·5 per 1000. In the same period the birth-rate has averaged slightly over 38 per 1000, with the result that the births reported have exceeded the deaths by about a million in each year of the decade. Though it is indisputable that the public health has improved in many respects in the past half-century, the data available are not adequate to enable us to gauge the extent and manner of the improvement. And whatever the improve*ment already effected, the main reflection about these figures* must be that if we describe the problem which still confronts the medical profession in India in the direction of reducing infantile mortality, malaria, and other fevers, and abdominal and lung diseases as being one of portentous magnitude we shall not be using an expression of exaggeration.

IMPROVED HEALTH IN ARMY AND IN JAIL POPULATION.

When we turn to the classes to whose well-being medical science has been specially directed, and regarding whose condition accurate statistics over a lengthy period are available, the results are most encouraging. These classes are the army and the jail population.

The mortality among British troops serving in India was 55 per 1000 between 1770 and 1800, 84 per 1000 between 1801 and 1830, and 58 per 1000 between 1831 and 1856. The Royal Commission of 1863 took a death-rate of 20 per 1000 as a possible rate under improved sanitary conditions. In the ten years ending in 1878 the death-rate had been reduced to 19·8. It has since 1900 averaged 9·5, and in 1911 was 4·89. Making all allowance for the fact that in the earlier years of our occupation the mortality on service was high these results are extraordinarily good. The mortality among the wives of soldiers has been reduced to one-third of what it formerly was, and that among their children to one-half. The diseases mainly responsible for the high death-rate among the British troops in the past were enteric fever, abscess of the liver, and cholera and other epidemics. The death-rate among the native troops, among whom pneumonia is the most fatal disease, was between 1871 and 1880 over 20 per 1000, and in the last six years of last century 11 7 per 1000. In 1911 it had fallen to 4·48 per 1000, or if deaths among men on sick leave or furlough are included to 6·78. *The medical officers in* charge of our army in India have indeed achieved a record of which they and all the members of their profession may well be proud.

The results among the jail population have also been very satisfactory Here the most common causes of death are dysentery, pneumonia, and tuberculosis of the lung. The number of deaths from epidemics is very small; fewer men in j[illegible] the native army. F[illegible] ged 71 per 1000; i[illegible] s reduced to 49; in the *last five years of last century* it was 30. *Since* 1900 it has averaged 20·5, and in 1911 was between 18 and 19. I may, perhaps, mention an instance of the beneficial effect of the supervision of a jail by a medical officer which came [illegible] at one time the practice [illegible] ler superintendents who [illegible] work in the jail being undertaken by a subordinate native medical officer, subject to the superintendence of the health officer of the district who had many other duties and was only expected to pay one visit daily. The death-rate in this jail for some years had been about 50 per 1000, and it had even gone considerably over 60. After studying the condition and statistics of the jail it seemed to me that the medical supervision was not adequate. I therefore determined to appoint a medical officer to the sole charge of the jail. The most remarkable result ensued: within one year the mortality was reduced to just over 19 per 1000.

Towards the results in cantonments and jails sanitary improvements of all kinds, a purer water-supply, and a better system of drainage have contributed in no small degree. But there are enormous areas, including most of the villages in India, in which there are no sanitary arrangements whatever worthy of the name, in which the water-supply is impure, and in which there is no system of drainage at all. And there is scarcely any place, whether city, cantonment, or village, in which there are not defects in hygiene so glaring as to shock the sanitary reformer. The Government of India are doing all that lies in their power to remedy these defects. They have given in recent years enormous sums of money towards sanitary improvements, and have neglected no opportunity of encouraging the people to pay more attention to hygiene. But progress is necessarily slow, and improvement must be gradual if it is to be permanent.

Benefits derived from Experiments on Animals.

I have had the honour to be associated as an administrator with medical officers in combating certain diseases in India, and the experience gained in this work has afforded the clearest proof that, but for the knowledge acquired by means of experiments on animals, the prevention and treatment of some of the most grievous afflictions of the human race in India would have been far less successful than they have been. Some people affect to consider that medical men are prejudiced in their defence of vivisection and other experiments on animals. This insult to the members of a most honourable profession tempts me to say a few words on the subject. I have no claim to speak with any approach to the authority of Lord Cromer, whose introduction to Mr. Stephen Paget's excellent book "For and Against Experiments on Animals" is a model alike of style and judicial reasoning. But I can at least claim to have had some opportunity of estimating at first hand the value of certain methods of treatment which depend on experiments on animals. And I can point to the fact that, when associated with my friend Sir Almroth Wright on the Indian Plague Commission, I felt bound to differ from him on some very important matters discussed in our report, such, for instance, as compulsory corpse inspection in plague epidemics, as proof that prejudice has played no part in the opinion that I have formed as to the results of those methods.

Small-pox and Vaccination.

I would first refer to the statistics regarding small-pox. There is a Hindu goddess of small-pox called Sitla, in whose honour religious fairs are held and largely attended. The disease prevails to an extent unknown in modern Europe, and its evil effects are aggravated by the fact that an enormous number of those who contract it never receive any medical treatment during the attack. It was not till about 1850 that a serious attempt was made to introduce vaccination into India. In that year some 350,000 persons were vaccinated; the number annually vaccinated in these days approaches 10 millions. The death-rate from small-pox, which 30 years ago was nearly 1 per 1000, has steadily declined until it is now only about one-third of that amount. Moreover, it has been noticed that the number of pock-marked young people of both sexes is far smaller in the present day than was formerly the case, and that, while the proportion of the wholly or partially blind among the young used to be highest where small-pox was most prevalent, it has decreased in general accordance with the territorial spread of vaccination. I submit that no fair-minded person can avoid the conclusion that these results have been due to vaccination. In the face of the clear proofs of its efficacy it is surely calamitous that the opponents of vaccination in England should have set themselves to make the people of India hostile to a process which has brought them so much benefit.

Inoculation against Plague.

I have already referred to the terrible mortality from plague in the last 15 years. It has long since been recognised that, except in extraordinary circumstances, compulsion is impossible, and the great obstacle with which the Government has been confronted is the difficulty of convincing the people of the utility of particular methods of prevention or cure. It is not easy to appreciate the mental attitude of people who, without having made a serious study of the facts and figures pertinent to the question, have increased the difficulties of those doing their best to contend with this terrible scourge by asserting that the vaccine discovered by M. Haffkine has encouraged the spread of the plague in India. There have, of course, been instances in which evil results have been caused by particular doses having been unfit for use, or by the carelessness of individuals injecting the vaccine, but such cases have been rare, and the use of the vaccine has been, speaking generally, of enormous benefit. The conclusion at which we members of the Plague Commission unanimously arrived in 1899 was that "inoculation with Haffkine's prophylactic vaccine sensibly diminishes the incidence of plague attacks on the inoculated population, though the protection which it affords is not absolute; that it also diminishes the fatality of attacks; that its protective effect does not appear within the first few days after the inoculation, and that the protection lasts certainly for some weeks, possibly for some months."

Since this conclusion was formulated I have had, as the head of the Government of two provinces in succession, one with a population of 47,000,000 and one with a population of 14,000,000, to deal continuously with outbreaks of plague. The whole of my experience gained in this interval has confirmed the conclusion of the Plague Commission, and the statistics of the many epidemics in which inoculation has been practised under my own eyes go to prove that the use of Haffkine's vaccine has been of the greatest service in protecting people from plague. I could quote many cases, but I will content myself with one which has always impressed itself very much on my mind. A Parsi friend of mine, Sir Bezonjee Dadabhoy, the manager of the Empress Mills at Nagpur, in which city some years ago a serious epidemic resulting in the death of over 7000 people occurred, endeavoured to induce the whole of the operatives of the mills to be inoculated. The total number on the muster rolls was between 6000 and 7000, and the daily attendance between 4500 and 5500. The number of mill hands inoculated was 5046 Among the comparatively small number of uninoculated there were 118 deaths, while among the inoculated there were only 9 fatal cases, 6 of which were the result of an attack within 10 days of inoculation.

This is a report from one whose only interest was to benefit the operatives in his employ, and the facts narrated in it prove conclusively that by inducing them to be inoculated he secured protection for them during the epidemic.

Antityphoid Vaccination.

Turning to enteric fever, the first thing that claims attention is that it is much more prevalent among Europeans than among Indians. For many years it was chief among the fatal diseases prevalent in the British army in India. In the last five years of the last century 43 out of every 100 deaths among British soldiers were due to enteric fever. The greatest liability to suffer was between the ages of 20 and 25 and during the first year of service in India, the liability of men to contract it in the first year of service being at least twice as great as in any other period. At the end of last century the possibility of life would have been as good for the European troops in India as for males of the same age in England had it not been for the prevalence of enteric fever.

The chief task then before the medical officers employed with British troops was the reduction of the liability of the British soldier to enteric fever. In 1898, only 15 years ago, the mortality from this cause was over 10 per 1000; among the native troops it was the same time something between 0·01 and 0·02 per 1000. The use of Sir Almroth Wright's antityphoid vaccine was attempted about this time in a spasmodic way, but it was not till 1903 that this plan of fighting enteric fever became general. In that year 295 deaths were caused by enteric fever, and the mortality caused by it was over 4 per 1000. Since then the death-rate declined, till in 1910 it was 0·63, and in 1911, the number of deaths being 24, only 0·33. In the latter year there were 61,822 men protected by vaccination and 9552 not protected. Among every 1000 of the non-protected men there were 6·7 cases and 1·15 deaths, while among every 1000 of the protected there were 1·7 cases and 0·17 death. We must not, indeed, forget that a great deal has been done in the direction of isolating convalescents and bacilli-carriers, but these figures, like those regarding men in the army in France and America, conclusively prove the beneficial results of antityphoid inoculation.

A striking instance came under my observation at a military station where outbreaks of enteric fever were of very frequent occurrence The introduction of antityphoid vaccination resulted at once in a large diminution in the number of cases and deaths In 1912 out of 693 men serving in four batteries of artillery stationed there 687 were protected by inoculation There were in that year two cases among the six unprotected men, but only one case among the 687 who had been protected The officer commanding a battery serving there wrote to me recently that all of his men had been inoculated for some years He added, "I have never lost a man since, nor have I had a case of enteric that I can remember till this year When I remember the number we used to lose in a battery each year I am astounded at Sir Almroth Wright's genius!" I can supplement this with my 35 years' experience that from the time when I first went to India till the use of Sir Almroth Wright's vaccine became established the cemeteries in the cantonments of the United Provinces were strewn with the graves of young men who had gone to serve their country in India only to be carried off by enteric fever within a year or two of their leaving home Now that the death rate even in a newly arrived regiment has fallen to what it might be expected to be in England the conditions have completely changed

Snake bite and Hydrophobia

It remains for me to refer to two risks to life in India from which people in Great Britain are entirely exempt Some 22,000 deaths are annually reported in India as having been caused by snake bite Admitting that this figure includes a number of deaths due to other causes there is still a large residuum really due to snake bite Antivenins which will, if promptly administered, prevent the bite of the cobra and Russell's viper respectively—two of the most poisonous snakes met with in India—from being fatal have been discovered by means of experiments on animals, and it is to be hoped that further discoveries may result in making similar treatment of the bites of other poisonous snakes feasible

An even more terrible scourge than snake bite is hydrophobia Inhabitants of Great Britain are, owing to the foresight and firmness of Mr Walter Long, saved from all apprehension on this score It is vain to hope that the disease can ever be exterminated in India, where pariah dogs, jackals, and wolves alike can convey rabies Till the end of the last century a patient bitten by a mad animal had no remedy in India Only the well to do could afford a journey to the Pasteur Institute in Paris, and, owing to the length of the voyage, this might often be undertaken in vain The poorer classes could only suffer and die in silence In 1900 a Pasteur Institute was established at Kasauli The number of cases received at the institute between 1900 and 1911 was 13 540, the patients being of every rank of life There were 225 deaths in cases in which the treatment could not be applied in time, and 81 failures in which the patient died more than 15 days after the completion of the course But the treatment as a whole shows a splendid result The long distances that have to be travelled in India made it evident that one institute was inadequate One most pathetic case occurred of a young English lady who, while expecting her first child, was bitten by a mad dog during the hot weather in the South of India She had to undertake a terribly hot railway journey of nearly a week Her case proved to be too advanced for hope, and she died in terrible agony A second institution has since been established in the South of India and a third is to be established in Burma When this arrangement has been completed some institute will be fairly accessible from any point in the territories under the Government of India, and provision will have been made to prevent an enormous amount of terrible misery, though with the number of habitations scattered over the country it will be impossible to prevent many cases from failing to come under treatment

CLOSING REMARKS

What I have attempted to tell you to day will, I am sure, satisfy you that experience in India, as elsewhere, proves conclusively that operations on animals have afforded untold benefits to the human race Performed with the utmost care by skilled surgeons, they are rendered almost painless through the use of anæsthetics, and are followed by a drug-softened death As instances of cruelty to our dumb friends, how can they possibly be compared to the limitless sufferings imposed on beasts of burden and other animals, on whose aid mankind depends, in India and many foreign countries? One experiences every day in an Indian city horrors in the treatment of animals, inconceivable to the stay-at-home inhabitant of these isles accustomed only to the pampered pets and well fed cattle of himself and his neighbours What a field for the tactful energy of animal lovers there is in that vast country, where pity rarely impels the passer by to put a wounded and stricken animal out of pain instead of leaving it to die a lingering death; where beasts of burden of all kinds are systematically over loaded and regularly worked when they ought to be in the care of the veterinary surgeon, and where even the cow, the sacred animal of the Hindus, is confined in evil smelling and ill-ventilated hovels, and often milked by the horrible phuka system which causes it terrible suffering At present only one institution, enfeebled through lack of funds, makes spasmodic efforts to instil into the starved brains of owners and drivers of beasts some dim recognition of the fact that consideration shown to their cattle is likely to reflect substantial gain on themselves For lovers of animal life, for those whose earnest wish it is to save the beasts of the field from unnecessary cruelty, and to ensure for them the minimum of harshness and pain involved in their use in the service of man, there is in India a splendid field for benevolent work which will, like mercy, be twice blessed in bringing relief to the animals which now suffer and honour to those who undertake it Such cases, too, as that of the creature Baker—he doesn't deserve to be called a man—who was recently convicted of sending on a long railway journey a poor little Aberdeen terrier which had been mercilessly pushed into a box utterly inadequate for its size, and with ventilation insufficient for a canary, show that there is still much nearer home to occupy the Royal Society for the Prevention of Cruelty to Animals, whose vigilance we all admire But the last people in the world who deserve to be attacked, on the ground that they are cruel or even unsympathetic towards animals, are those devoted seekers after benefit to the human race, who are in this country, in pursuance of the objects of the Research Defence Society, conducting experiments on animals subject to strict rules and regulations and imbued with the righteous desire to cause them the least possible misery and pain

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FOREIGN UNIVERSITY INTELLIGENCE —*Amsterdam* Dr H R G J Brongersma has been recognised as *privat docent* of Urology —*Budapest* Dr Z Dálmady has been recognised as *privat docent* of Physical Therapeutics, Dr E Gergo as *privat docent* of Surgical Diagnosis, Dr L Nagy as *privat docent* of Anatomy, and Dr Fleisch as *privat docent* of Pædiatry —*Bologna* Dr Carlo Santini has been recognised as *privat docent* of Surgery and Operative Medicine —*Cagliari* Dr Francesco Marchi has been recognised as *privat docent* of Ophthalmology — *Catania* Dr. Giuliano O Littore has been recognised as *privat docent* of Surgery and Operative Medicine and Dr Andrea Luppino as *privat docent* of Ophthalmology —*Coldit.* Dr L W Weber, of Chemnitz, has been appointed Director of the Lunatic Asylum, in succession to the late Dr Naecke —*Florence* Dr Leone Maestro, of Padua, [illegible] *docent* of Pædiatry —*Genoa* [illegible] been recognised as *privat doce*[illegible] Dr Davide Giordiano as [illegible] *Gottingen* Dr S Lowe has been recognised as *privat docent* of Pharmacology —*Innsbruck* Dr Ludwig Haberlandt has been recognised as *privat docent* of Ophthalmology —*Kiel* Dr Louis Michaud, senior physician to the University Medical Clinic, has been granted the title of Professor —*Modena* Dr Angusto Plessi has been recognised as *privat docent* of Medical Pathology and Dr Ettore Giorgi as *privat-docent* of Pædiatry —*Naples* Dr Pietro Tria has been recognised as *privat* [illegible] Gravina as *privat* [illegible] Pasquale Poso as *pr*[illegible] —*Parma* Dr Achille Viterbi has been recognised as *privat-docent* of Ophthalmology —*Pisa* Dr Giuseppe Buglia has been recognised as *privat docent* of Experimental Physiology —*Prague (Bohemian University)* Dr A Hamsik has been recognised as *privat docent* of Medical Chemistry —*Rome* Dr Francesco Bonfiglio has been recognised as *privat docent* of Neurology and Psychology —*Sienna* Dr Francesco Crosti has been recognised as *privat docent* of Surgery and Operative Medicine.

TWO CASES OF AURICULAR FLUTTER.

BY JOHN HAY, M.D. VICT., M.R.C.P. LOND.,
SENIOR ASSISTANT PHYSICIAN, ROYAL INFIRMARY, LIVERPOOL.

IN 1908 Hertz and Goodhart[1] published a case in which there was a remarkable discrepancy between the frequency of the auricles and the ventricles. The auricles contracted at an average rate of 220 beats per minute, the ventricles infrequently, varying from 75 to 156 beats per minute. Later, in 1910, Jolly and Ritchie,[2] in reporting a somewhat similar case, applied the term "auricular flutter" to this condition, and this name has been accepted. Since then numerous cases have been reported; the most important and complete account is to be found in a paper by Lewis,[3] in which he has collected all the cases published up to that date. Since the publication of Lewis's paper, Ritchie[4] and Hume[5] have recorded further cases.

Such cases are of extreme interest and importance, but as the whole ground has recently been carefully covered by these writers, I will content myself with giving the history and tracings of two patients suffering from auricular flutter whom I have had under observation. They present certain points of interest in diagnosis, prognosis, and treatment.

CASE 1.—The patient, aged 40, was admitted to the Stanley Hospital, Liverpool, under my care on May 29th, 1906, complaining of shortness of breath, swelling of the feet and legs, and palpitation on exertion. Later he was a patient in the Liverpool Royal Infirmary in Dr. T. R. Bradshaw's ward, through whose kindness I had the opportunity of continuing my observations.

Past history.—The patient had suffered from the usual children's ailments, and had had small-pox at the age of 21 and malaria in 1900. He never suffered from rheumatism or growing pains. He had always been a heavy smoker, and until 1904 had taken alcohol in excess. He first began to notice difficulty in breathing in the early part of 1906. In April of the same year he became very œdematous and required hospital treatment. He was markedly cyanosed when admitted to the Stanley Hospital. The earliest note as to his heart was made on May 30th, 1906. The heart's action was irregular, rate 76, and the blood pressure was raised. The cardiac dulness extended 1¾ inches to the right and 5½ inches to the left of the middle line. The apex beat was not distinct, but there was a diffuse heaving in the fifth and sixth spaces in the nipple line. On listening over this diffuse impulse a distinct systolic murmur was heard, followed by a loud thumping second sound. There was a troublesome cough and evidence of fluid at the right base. Urine: specific gravity 1012, acid, no sugar, trace of albumin.

The interesting features in this case can best be followed by examining the graphic records.

Fig. 1, taken on June 11th, 1906, shows remarkably well the alternating character of the radial pulse. This was very noticeable at that time and was the chief element in the irregularity. The jugular tracing is poor, but in the light of later records we know that the small waves, *a*, are due to auricular systoles; they represent a frequency of about 240 per minute. *c* denotes movements of the lever due to the pulse in the carotid artery.

On Sept. 30th, 1907, the pulse was regular—about 70 per minute with occasional intermissions. On carefully analysing the tracing seen on Fig. 2 we find a 3 to 1 ratio. The auricles are beating 270 times per minute and the ventricles 90. The radial pulse is regular and a little more frequent than normal, and it would obviously be impossible from an ordinary examination of the patient to surmise that the auricles were beating with such great frequency. The record Fig. 2 shows an intermission; there is a long pause interrupting the regular contractions of the ventricles. There is no corresponding pause in the jugular tracing, for the waves due to auricular systole continue without variation. It was portions of the tracing such as this which led me to recognise that the cardiac condition was unusual.

Five months later a different phase was noted, as shown in Fig. 3. In this tracing the radial pulse is absolutely regular, and its rate is 60 per minute, apparently a normal action, and yet the man was not well—the reserve power of his heart was defective. In this tracing, taken on March 19th, 1908, we find the auricles acting more quietly at 240 per minute, and the ventricles responding to every fourth auricular systole, a 4 to 1 ratio. He is now under the influence of squills; this member of the digitalis group has depressed the conducting power of the junctional tissues and increased the degree of heart block, transforming the 3 to 1 to a 4 to 1 ratio. On April 9th, 1908, 20 days after the previous record showing a 4 to 1 ratio, a change was noticed: the pulse had become quite irregular and disorderly in its rhythm. The tracing Fig. 4 was taken on this date, and reveals that the auricle is now fibrillating; the very small and extremely rapid movements of the auricle are not recorded in the jugular tracing. Fibrillation of the auricle has replaced the auricular flutter. The squills has done its work.

He left hospital very much improved, and shortly afterwards obtained regular work. I met him by chance in the beginning of November, 1912, and he reported himself in excellent condition. At my request he gave me an opportunity of examining him again, and I found the heart was contracting normally. The deep cardiac dulness extended 1 inch to the right and 4 inches to the left of the middle line. The thrust of the apex beat was best felt in the sixth space, and a faint systolic murmur was audible localised to the area of the apex beat. He had no difficulty while he kept to the flat, but hills and stairs proved a burden. Fig. 5 shows the type of jugular record at this date. Note the large bifid *a* wave followed by the small *c* or carotid wave, and that the *a.c.* interval is prolonged to 4/15ths of a second. There can be no doubt that under squills the fibrillation had given place to a normal action of the heart, accompanied by a great gain in reserve power. There is still crippling, but so long as the sequence of contraction is normal he can work and earn a living.

Summary.—We have records of a man of 46 extending over a period of about seven years, demonstrating the presence of auricular flutter with a 3 to 1 ratio and occasional irregular action of the heart. When first seen alternation of the radial pulse was pronounced; this disappeared entirely while under observation. Later a 4 to 1 ratio is observed. Then in 1908 under the influence of squills the auricular flutter changed to auricular fibrillation, which in its turn gave way to a normal sequence of contraction. The heart continues to contract normally, and the patient, much improved, is earning his living.

CASE 2.—The patient, a man aged 62, was first seen in consultation with Dr. J. C. M. Given on Oct. 1st, 1912.

Past history.—For 10 years the heart had been larger than normal and occasionally irregular in its action. For the last two and a half years he had noticed that exercise produced breathlessness. That summer there had been a great increase in the liability to dyspnœa, and once or twice when golfing he felt giddy and dazed. Sometimes he experienced a sensation of fluttering behind the sternum, which he described as if there were "a bird loose in his chest." His wife had noticed for some months that when he was asleep there was a rhythmical increase and decrease in the depth of his breathing.

He was a long, thin man, and when I first saw him he was lying comfortably in bed. His general appearance was healthy, there was no œdema, and his urine was normal. The heart was much enlarged, and there was considerable heaving of the præcordium and forcible apex beat. The deep cardiac dulness extended 2 in. to the right and 6 in. to the left of the middle line. A systolic murmur was heard over the apex beat, localised and not conducted into the axilla, and a faint diastolic murmur was audible down the sternum. The systolic blood pressure for the larger beats was 170 mm. Hg; the diastolic pressure as estimated with the phonendoscope was 80–90 mm. Hg. The pulse-rate varied and averaged about 84, irregular in time and force. On Oct. 8th records were taken (Fig. 6); the radial pulse was very infrequent and almost regular in the first tracing. The remarkable feature was the presence of extremely numerous waves in the jugular veins, due to the auricular systoles. These waves became more evident in the latter half of each

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[1] Quarterly Journal of Medicine, Oxford, 1908–09, vol. ii., p. 213.
[2] Heart, London, 1910–11, vol. ii., p. 177.
[3] Ibid., 1912, vol. iv., No. 2, p. 171.
[4] Edinburgh Medical Journal, December, 1912.
[5] Quarterly Journal of Medicine, Oxford, 1913, vol. vi., p. 235.

FIG. 1.

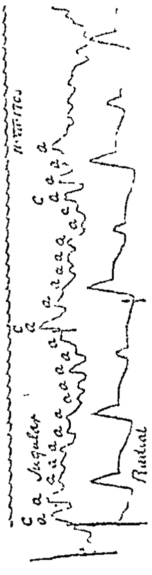


FIG. 2.

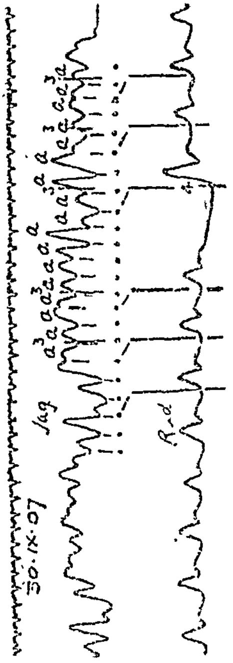


FIG. 3.

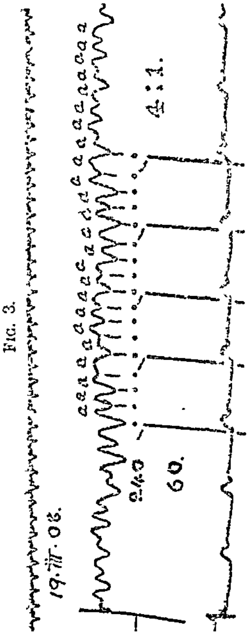


FIG. 4.

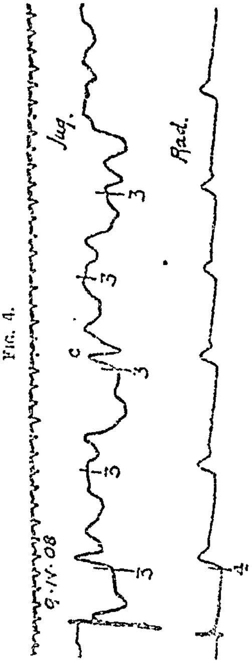


FIG. 5.

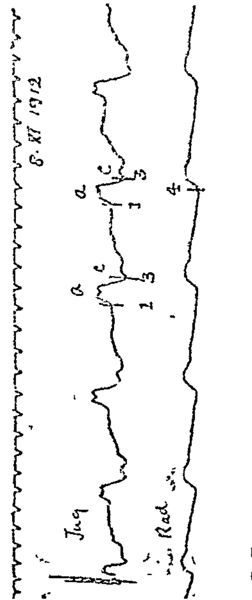


FIG. 6.

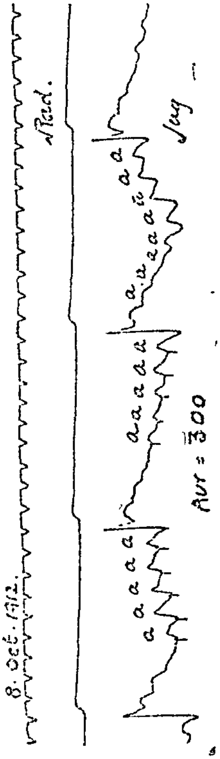


FIG. 7.

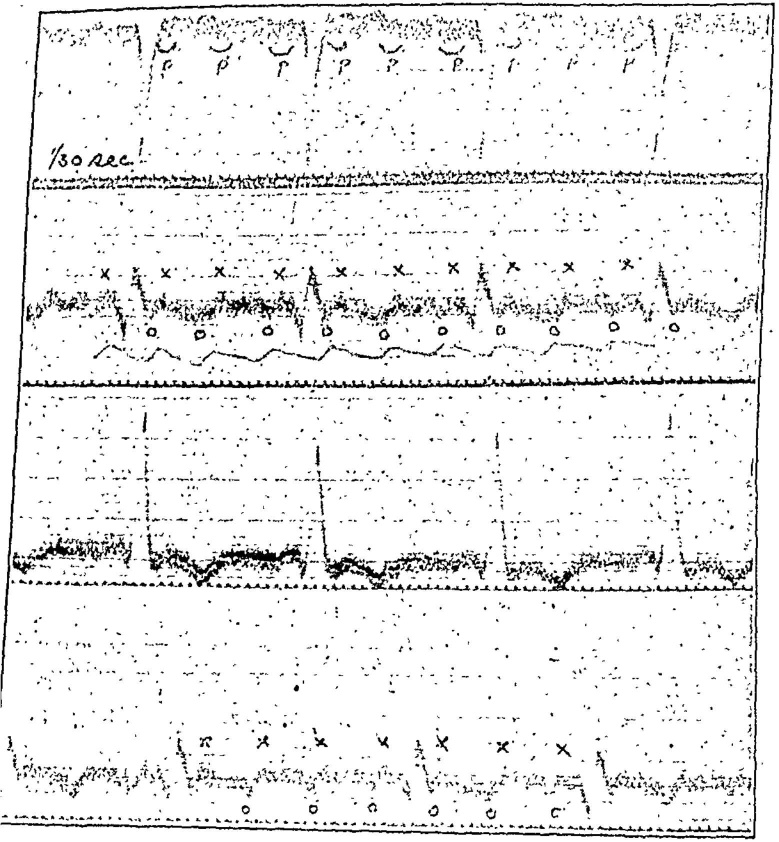


FIG. 8.

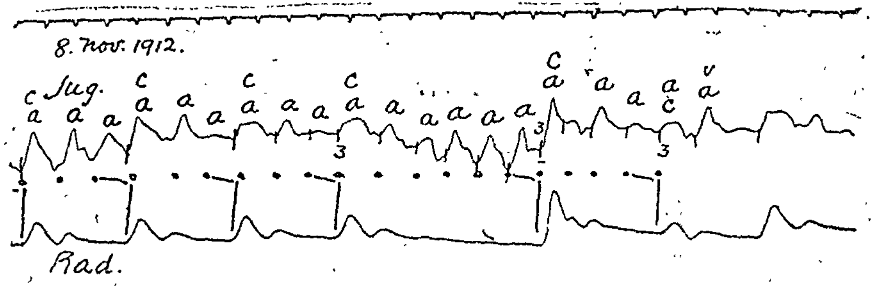


FIG. 9.

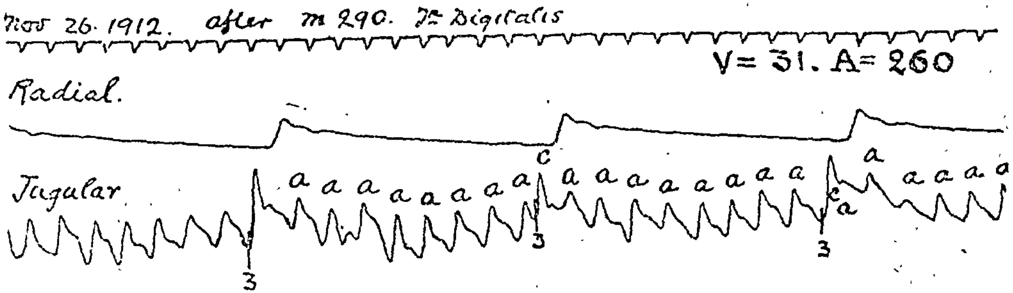


FIG. 10.

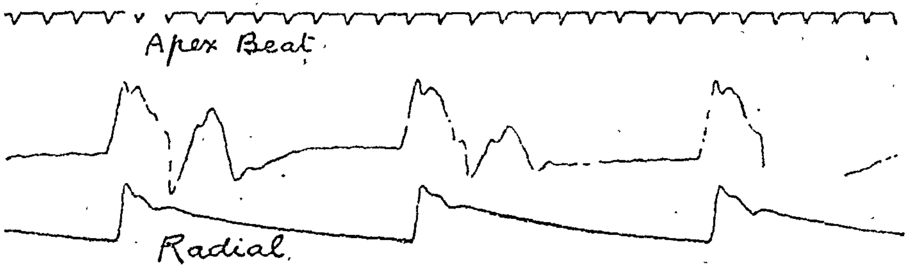
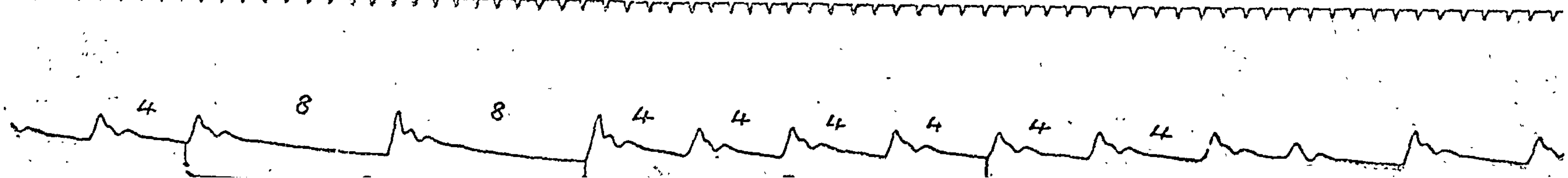


FIG. 11.



diastolic pause; they were masked in the earlier portion by the free movement of the lever caused by the large carotid pulse in the neck The auricles were beating 300 times per minute Other records showed that some of the ventricular systoles were unable to send a palpable pulse wave to the wrist

No further tracings were taken for a month, as he went to the South of England for a change He returned feeling very much the better for the rest At my suggestion while in London he saw Dr James Mackenzie, and electrocardiograms were taken by Dr Thomas Lewis In Fig 7 we have the electrocardiograms kindly taken by the latter The elevations marked *x* indicate systolic contractions of the auricles and the larger deflections represent contractions of the ventricles When this record was obtained the ratio was 3 to 1 The lower record in Fig 7 was taken almost immediately after the previous records Here we have a 4 to 1 ratio interpolated in a 3 to 1 series

On Nov 8th, shortly after his return, I obtained further tracings His radial pulse was regular, with a very occasional intermission He was much improved, the breathing was much easier, the cardiac reserve was greater, and he experienced no discomfort on easy walking Pulse 80 to 84 per minute Blood pressure 140 mm Hg systolic, 100 mm Hg diastolic A 3 to 1 ratio was present, the frequency of the auricle being 261, ventricles 87 (Fig 8) Occasionally a longer pause ensued, and instead of the ventricles responding to every third systole of the auricles the ratio is 6 to 1, followed by a 4 to 1, and then the 3 to 1 ratio is resumed Note in this tracing the significant alternation in the pulse It was decided to give digitalis in large doses, and he was accordingly ordered the B P tincture, 40 minims daily. On Nov 26th, after he had taken 290 minims, I took another tracing (See Fig 9) The ventricles were beating comparatively regularly while the record was being taken, but after walking about their frequency was increased and the rhythm became less regular

Note that the auricles are still contracting at the rate of 260 per minute, the ventricles about 31 per minute A condition of complete block has been induced by full dosing with digitalis The auricular waves *a* are excellently seen in the jugular pulse When the ventricles were contracting at this funereal pace the patient experienced an unpleasant sensation of tugging with each heart-beat The digitalis was continued until he had taken in all 360 minims; then as the ventricles continued to contract at 30 and there were no signs of the auricular flutter giving way to auricular fibrillation as the first step to the resumption of a normal rhythm, we stopped the continued administration of the digitalis, and since then have only allowed sufficient to act as a restraining influence and prevent undue frequency of the ventricles On Dec 1st, 1912 (when in bed), records showed the peculiar coupling of ventricular systoles which one sees so frequently in cases of Stokes Adams disease or auricular fibrillation under the influence of digitalis (Fig 10) The pulse rate was then very infrequent

It was of interest to note that at times the radial pulse showed a superficial resemblance to that of the disorderly rhythm of auricular fibrillation (Fig 11) Towards the end of January it was quite impossible to obtain any record of the jugular pulse Careful examination of the sphygmograms, using the method of spacing described by Lewis, at once reveals that these are the records from a patient in whom the auricles are in a condition of flutter For example, in Fig 11 the space *a* exactly coincides with the space *b*, and so on At the time these records were taken the patient was feeling much better and looked remarkably well He felt that his cardiac reserve was much improved The pulse varied considerably in frequency and regularity To a casual observer feeling it for the first time it would give the impression at one time of intermissions due to occasional extrasystoles, at another of the irregularity due to auricular fibrillation The blood pressure was 160 mm Hg systolic, and 100 mm Hg diastolic At this time he was taking 10 minims of the official tincture of digitalis each night, which amount was just sufficient to steady the action of the heart, but not enough to cause undue slowing of the ventricle such as was present on Nov 26th (Fig 9) It is of interest to note that the slight tendency to Cheyne Stokes respiration quite disappeared, and that there is now no evidence of alternation in the pulse, such as we see in the tracing taken on Nov 8th (Fig 8) In spite of the abnormal frequency of the auricular systole he feels well, transacts a certain amount of business three mornings a week, and enters into ordinary social life

Summary —A man aged 62 came under observation with a large heart and peculiar arrhythmia For 10 years the heart has been known to be increased in size, and occasionally irregular in its action The auricular rate was 300; the ventricular 50 to 60, and coupled A month later a 3 to 1 rhythm was present—auricular rate 261, ventricular rate 87 Cheyne Stokes respiration and alternation of the pulse were noted Large doses of digitalis produced a high grade of heart-block, but the auricular flutter persisted and is still present The general condition of the patient is much improved A small dose of digitalis daily is required to moderate the frequency of the ventricle

Note —On April 17th I took polygraph records These demonstrate that the "flutter" has ceased and that the heart is again acting normally with the exception of numerous extrasystoles originating in the auricle

Liverpool

HEMIPLEGIA FOLLOWING SYPHILIS,

WITH SPECIAL REFERENCE TO A CASE OF DOUBLE HEMIPLEGIA AND PSEUDO BULBAR PARALYSIS

By MURDOCH MACKINNON, M D Edin, D P H Oxon,

CASUALTY PHYSICIAN TO ST MARY'S HOSPITAL LONDON, LATE MEDICAL SUPERINTENDENT AND REGISTRAR, SEAMEN'S HOSPITAL, GREENWICH

Syphilis as it affects the nervous system was formerly considered to be a late secondary or tertiary manifestation of the disease, and the symptoms and signs of cerebral syphilis were calculated to become manifest usually between the third and tenth year after the primary infection It is now recognised, however, that brain syphilis may occur much earlier than this, and recent statistics show that about half the lesions occur within the first two years of the primary infection and the remainder are distributed over the next 12 years According to Mott half of the lesions occur within the first four years One of the commonest results of cerebral syphilis is hemiplegia, and although the period of its maximum frequency is between the third and tenth year cases occur within the first year, and even within the first few months instances have been reported The rarity of the latter, however, is well known, and the notes of the following cases, more especially of the first case, are interesting in that they show how early after the primary infection intracranial lesions may occur, and also the multiplicity of the lesions which is so characteristic of the disease, and serves to differentiate it from similar symptoms occurring in non syphilitic cases

Case 1 —A Chinese sailor aged 39 was admitted to the Hospital [illegible]

eyelid patient cannot [illegible] and pupils are equal and normal in reaction to light and accommodation Right corner of the mouth droops, and facial line is less distinct than on the left side Tongue is protruded to the right Right arm Loss of power in the arm but not absolutely paralysed Hand grip very weak There is no loss of sensation Right leg: Paresis as in right arm Knee-jerks increased Babinski's toe reflex No sensory changes *Left side* No paresis or sensory changes Reflex normal Chest Healthy No cardiac lesions On were sore. The mercury was stopped for a time, and he was given potassium iodide. On Dec. 19th he was discharged much improved. He could open the eye quite well now, and could use the right arm and leg almost as well as the left. He was given a mixture of biniodide of mercury, which he was to continue taking. On Jan. 2nd, 1911—that is two weeks after his discharge and three months after the appearance of right hemiplegia—the patient was again admitted to the hospital, but this time with a complete left hemiplegia and inability to talk. He was quite unable to speak, but from signs in answer to questions it appeared that the attack came on as before, during sleep, and on waking in the morning he found he could not move the left side at all and was unable to talk. There was complete paralysis of the tongue, soft palate, and lips. He could not protrude his tongue or move it to either side. The soft palate did not move and there was great difficulty in swallowing, especially liquids. Breathing was difficult and apparently was effected with great effort. Left arm: Marked loss of power. Could move fingers and wrist slightly. No loss of sensation. Left leg: Could raise the leg a little, but it was much weaker than the right. Babinski's toe reflex. Knee-jerks increased. No ankle clonus. Right arm: Fairly strong, but obviously weaker than normal. Biceps, triceps, and supinator jerks increased. Right leg: Fairly strong, but knee-jerks increased. Babinski's toe reflex. Ankle clonus. Sphincters unaffected. Jan. 15th: Patient improving slightly. Taking mercury and potassium iodide. He could swallow a little better, but was still unable to speak or protrude the tongue. The left arm was much stronger. Feb. 1st: General condition much improved. Could move the tongue slightly, but could not protrude it beyond the teeth. The left arm and leg were much stronger. On the 11th an injection of salvarsan ("606") 0 6 grm. was given. On the 18th he could talk a little and could protrude the tongue beyond the lips and swallow fluids and solids with comparative ease. The patient continued to make steady improvement and before his discharge on June 16th could walk and talk perfectly well, and beyond a slight exaggeration of reflexes on both sides and a little stiffness in walking there were no signs left of the successive attacks of paralysis.

In addition to the above case three others have come under my notice, all showing hemiplegic paralysis on one or other side, occurring at varying periods after the primary sore, but all of them undoubtedly secondary to the syphilitic infection.

CASE 2.—The patient, aged 30, was admitted to the hospital with loss of power in the right arm and leg. Nine contracted syphilis, for which he was treated and a half months. He was then discharged, continuing the treatment as before. Fourteen days before his admission he woke up in the morning with paralysis of the right arm and leg. There had been no premonitory symptoms. Physical signs: Divergence of tongue to affected side and facial paralysis. Paresis was never sufficient to inhibit progression, and under appropriate antisyphilitic treatment the patient rapidly improved. There was no cardiac disease or any evidence of arterio-sclerosis. Six weeks previous to this he had ptosis of the right eye. He states that previously to that he had paralysis of the left eye, from which he recovered.

CASE 3.—The patient, aged 40, was admitted to the hospital in December, 1909, suffering from paralysis of the right leg. It was elicited that in September, 1907, he had found that he could not open his right eye in the morning. There was no pain. For four months he was unable to open the eye completely. After that the condition slowly improved. He had been treated as an out-patient. In January, 1908, he had sailed to Cape Town, and while there was seized with sudden pain in the right leg with loss of power. He did not fall, and was able to walk to the hospital. From there he was sent home, and had since been taking medicine. In September, 1908, he had a transient attack of aphasia which lasted a few days and then cleared up. He had had a chancre; was uncertain as to date, but thought it was in 1903. On admission the patient was found to be a rather stout, robust man. There was no paralysis of the tongue, and the palate moved well. Eye: No diplopia. Right pupil slightly larger than left. Does not act so well. No ptosis. Slight weakness of right orbicularis palpebrarum. No facial paralysis. Arms: No tremor. Coordination perfect. Elbow- and wrist-jerks increased, especially right. leg much weaker than left. Slight foot skin. Knee-jerk exaggerated. Ankle clonu

CASE 4.—The patient, aged 30, was admitted to hospital on Dec. 21st, 1910, with loss of d leg. He had contracted syphilis had been treated for three and a ha then privately. Fourteen days before admission he lost the power of the right side during sleep. He had gone to bed quite well the night before, and there were no premonitory symptoms. The paralysis was not complete, as he was able to walk about fairly well, although very much weaker on that side. On admission the patient was found to be a well-nourished man. There was paresis of the right arm and leg. Facial folds flattened on the right, and the tongue was protruded towards the right side. The patellar reflex was much exaggerated on the right side, and ankle clonus was present. There was no ocular paralysis. There were no sensory changes. The patient was given a mixture of mercury and iodide of potassium three times a day and made rapid improvement. He was kept under treatment for six weeks, and on his discharge was perfectly well, having regained complete power of his limbs.

Hemiplegia due to syphilis, although as a rule presenting physical signs similar to those arising from hemiplegia due to other causes, at the same time differs in certain characteristics, and the first case narrated in this paper is typical in that respect. The brief notes of the cases which follow agree in the main with the above in respect to age, mode of onset, and termination, the succession of symptoms indicating multiple lesions and the complete recovery under suitable treatment

With regard to the etiology of syphilitic hemiplegia, it is well known that the vascular lesion, which is the commonest cause of this condition, is the obliterating endarteritis, a condition which may be found in a number of smaller arteries throughout the body, but most frequently in the smaller terminal arteries of the brain. The pathological change affecting the vessel walls begins as a proliferation of the adventitia. The increase of newly formed fibrous tissue frequently tends to the formation of a thrombus in the contracted lumen of the vessel, and according as to whether the thrombus partially or completely obliterates the lumen of the terminal artery the result is a hemiparesis or a complete hemiplegia. There may be a condition of unilateral numbness and tingling during the stage of partial obliteration due to the ischæmia of the part of the brain supplied by the obliterated vessel, and this condition may precede for several hours, or even days, the onset of sudden paralysis. This paralysis may readily be recovered from if the case is seen and diagnosed sufficiently early to allow of the appropriate antisyphilitic remedies being freely administered. Fortunately this is the result of treatment in most cases, but in a few the paralysis is permanent, on account of delay in treatment and the degeneration and softening of that part of the nervous system deprived of its blood supply. These vascular lesions are described as the early tertiary or late secondary manifestations of syphilis.

SYPHILIS: ITS DANGERS TO THE COMMUNITY, AND THE QUESTION OF STATE CONTROL.*

BY H. C. FRENCH, M.R.C.S. ENG., L.R.C.P. LOND.,

MAJOR, ROYAL ARMY MEDICAL CORPS.

(Concluded from p. 917.)

Resolutions adopted by the International Congress on the Prevention of Syphilis and Venereal Diseases; Brussels, September, 1899.

1. That the Government should use their utmost powers to suppress the prostitution of girls under age. 2. That a permanent international "Society of Social and Moral Prophylaxis" should be constituted, having its headquarters in Brussels, issuing a quarterly journal in French, English, and German, and holding congresses from time to time; the first congress to meet in Brussels in 1902. 3. That since a thorough knowledge (*connaissance approfondie*) of venereology is one of the most important means of effectually combating the spread of disease, complete and compulsory courses of instruction in the subject for all medical students should be instituted in every University, so as to ensure the training of really competent practitioners. 4. That guardians of orphans, and others charged with the education of the young, should use every effort to promote their moral development, and to teach them temperance and respect for women of all classes.[4] 5. That the utmost rigour of the law should be enforced against *souteneurs*.[5] 6. That the Governments should appoint in each country a commission charged to ascertain the amount of these diseases, apart from temporary fluctuations, among the *civil* population; to inquire into the existing means of treatment, the distribution of hospitals in various localities, &c., and to collect opinions and formulate proposals as to the best means of preventing the dissemination of the malady.[6] 7. That the Governments should find means to warn the public, and especially young persons, of the dangers attending an immoral life. 8. That the statistics of disease should be drawn up in all countries on a common basis. All these resolutions were passed unanimously.

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* A report presented at a joint session of the sections of Dermatology and at the Seventeenth

[4] This was brought by a Russian delegate, Dr. de Sturmer, from a Russian Medical Congress, where it had been unanimously adopted.

[5] I.e., men who live upon the earnings of prostitutes.

[6] Proposed by Dr. Saundby on behalf of the British Medical Association.

Conclusions.

None of the final resolutions touched upon the question of State regulation at all. It was felt that if the Conference was to speak with authority it must speak "unanimously," and on this subject it was evident that opinions were hopelessly divided. Four of the resolutions aim at the "prevention of vice" as the root of the whole evil, while the remainder seek to increase the efficiency and accessibility of medical aid, to apply a "stimulus to research," and to bring all results into the common treasury. There is no reason to fear the light if only there is light enough.

We desire to rebut a common error and a not infrequent misstatement. M. Pierson, president of the International Society for the Abolition of Regulation, stated at the International Conference at Brussels, 1899, "that men infected with venereal disease were as dangerous as women, as they were not subject to regulation." This statement is erroneous for two reasons. First, a woman practising prostitution as a trade usually associates with numerous men. A man does not, and could not, associate with a like number of women. Secondly, *a woman does not, as a rule, know that she is suffering from venereal disease*, since she cannot see and rarely feels any discomfort. She consequently spreads a large amount of disease in ignorance and would not come under treatment unless she were medically inspected. A man, on the other hand, both knows, sees, and suffers from his venereal complaints, and usually seeks early advice. The European public prostitute, in her own interest, is necessarily only too ready to be cured when she knows she is diseased. This she cannot ascertain until others discover it. The clandestine prostitute, however, whether European or native, would never willingly *undergo treatment even when she knows she is diseased*. She practises her trade secretly, is not under any effectual control, and spreads ten times as much disease as a public prostitute. Such is the case in European countries, and it is endorsed by Indian experience. In speaking of the direct conveyance of acquired syphilis, gonorrhœa, and soft chancres (non-infecting sores) the amount of disease conveyed by a woman is, for the foregoing reasons, probably one hundred times as much as that conveyed by a man. This is important to remember in regard to the administrative control of venereal diseases, and a point that we have *rarely seen sufficiently recognised*.

Professor Fournier (Paris) said, "Statistics are good when they support you, and bad otherwise." When inaccurately collected it must be admitted that statistical evidence is most unsatisfactory and very conflicting. For the statistics of venereal disease to be really valuable they must be the result of personal inquiry, personally collected, the deductions fairly drawn and based on a sound system. In fact, if statistics are to prove anything they must be much more carefully revised and systematised. We indicate in what manner later on, in the scheme propounded for the army in the year 1904.

Prolonged treatment is only necessary in the case of syphilis. Non-infecting chancres (soft chancres) are seven to ten times as frequent as infecting chancres (primary syphilitic chancres, indurated chancre) in the case of soldiers in the British Army. This is probably the case as regards relative incidence amongst women. One or two months' adequate treatment and isolation would effectually cure nine-tenths of persons infected with venereal disease. In this category we include gonorrhœa for the purpose of isolation. Quite a small number of persons are infected otherwise than by "direct contact" with local lesions on the pudenda. The cure of these lesions is ordinarily quite an easy and a feasible task. Free prostitution undoubtedly means unrestricted syphilisation of the people. A syphilitic woman is a real source of danger, but any method of dealing with this question could only be successful by the early isolation of infected men and women, and by the efficient inspection of *both*.

It was further represented at the Conference in 1899 at Brussels that "The criminal phases of prostitution should be under the jurisdiction of the criminal courts and not as at present subject to the will of the police authorities and [illegible] veillance. Under the present [illegible] by criminal law is permitted."

Efficiency of control necessarily depends on the "competence of individual physicians." Unregistered prostitutes, however, came to dispensaries in a frightful state. It was conclusively shown that syphilis amongst women in Europe was most common between the ages of 17 and 22. The same applies to India. Prostitutes in Christiania, suffering from syphilis, who are arrested for other offences did not come under *treatment*. *Professor Peterson* said that regulations worked well in Russia and that supervision and inspection are of the greatest importance in preventing the spread of syphilis. It was generally admitted that medical inspection was "not as good as it might be." Many persons urged that it would be better to make inspection altogether a medical matter and to coordinate it with treatment by letting the women attend at special dispensaries. (This is done in India and with excellent results.) (Vide Appendices B and C and Tables III. and IV.)

Mr. C. F. Marshall[7] states: "Patients prefer to go to general hospitals or to skin hospitals, where they are treated as ordinary hospital patients and not as criminals and outcasts. This state of things results in the almost entire neglect of the study of venereal and syphilitic diseases in this country. On the Continent, and in America these diseases are recognised and studied in the *same way as other* diseases, and are not covered with the hypocritical cloak of British prudery." Mr. Brasher writes on May 29th, 1893: "A brief reflection will show that a large number of syphilitic patients would on no account voluntarily enter a lock hospital." He ventures to suggest that an important factor in the control of syphilis is to obtain greater "uniformity of treatment." "Greater uniformity of treatment and 'education of the public' on this subject will lessen but not prevent the recurrence of syphilis; more than this is needed. The fact that syphilis is an 'acute specific' points to notification under the Infectious Diseases (Notification) Act as the only logical course." It may be objected that notification will result in concealment, recourse to quacks, and inability of sanitary authorities to punish offenders. To this it may be replied that the success of the present notification is due to the public's recognition of the Act as a powerful preventive of the spread of disease, and therefore worthy of implicit obedience. Undoubtedly the prolonged course of syphilis and the impossibility of keeping patients under constant observation are difficulties, but if the public can be educated as regards tuberculosis they may also be taught that syphilis is as terrible a disease, and that it is also a preventable one.

Let us consider how the foregoing principles are supported by personal experience at Malta in the past three years. The enormous reduction in syphilis effected in recent years amongst soldiers in Malta has mainly resulted from the more thorough control of venereal diseases at their source in the civil community, which has enormously benefited. This has been effected by means of a system of "confidential medical notification" and more effectual segregation of diseased persons, commencing in October, 1909, and applied equally *to both sexes*. *A Government Ordinance* has existed in Malta since 1861, and this was amended in 1898 to make it in effect a sanitary ordinance on the lines of the Indian Cantonment Act of October, 1897 (*vide* Appendix B and Tables III., IV., V.)

Amongst troops in Malta in 1908 syphilis caused 18·6 admissions and 2·33 constantly sick in hospital per 1000. This was not high, but it has been reduced to one-fourth in 1911—namely, 4·3 admissions and 0·42 constantly sick per 1000, and no invalids for syphilis, gonorrhœa, or soft chancre. This result occurred in a garrison of 7000 soldiers amongst a civil population numbering nearly a quarter of a million of persons, and a fleet of 7000 strong arriving periodically. Not only was the incidence of freshly contracted disease lessened, but all forms of disease, syphilis, soft chancre, and gonorrhœa, were also attenuated. Table II. gives the actual number of soldiers on the Syphilis Register and the actual number of cases contracted in Malta, with such medical notification in force during my tenure of appointment since September, 1909, as contrasted with the admission and the constantly sick daily in hospital ratios. It can be observed that in 1910-1[illegible] incidence of s[illegible] admission and [illegible] partly depend[illegible] disease, are more largely influenced by administrative measures plus medical treatment, the sum total being largely dependent on the lubricating oil of individual initiative, on the introduction of measures to meet the frequently changing exigencies of local requirements, and on systematised procedure and centralisation of work.

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[7] Brit. Med. Jour., May 23rd, 1899.

The naval and civil authorities also report the marked reduction of disease; and provided that the immigration of diseased persons from ouside areas can be controlled, poverty and its twin sister, disease, will eventually be lessened by a reduction in the cost of maintenance of poor-houses, prisons, and lunatic asylums (in which places syphilis is domiciled), and the illegitimate birth-rate lessened. What has been done in the island of Malta can be equally done in the British Isles—with effort.

In Malta several other factors have also contributed to good results, and in the case of syphilis they have been obtained with mercury, potassium iodide, and local treatment. The results under mercury endorse those obtained at Woolwich (Table I.) in 1905-9, and endorse Indian experience (Table III.). The marked reduction in syphilis from 1909 to 1911 in Malta, in India 1898 to 1910, and throughout the army generally as exemplified by these tables, occurred before the introduction of salvarsan. A "Syphilitic Record Book," introduced in 1904, and modified in 1910, exists in each station, and the particulars from the "syphilis case-sheet" are entered for permanent reference. These general principles have recently been applied to gonorrhœa, and a "gonorrhœa case-sheet" as an official army form is now in use. Finally, by means of a "venereal surveillance form," cases are followed up on discharge from hospital or on transfer to other stations.

It may prove of interest to trace the origin of methods which, in a modified degree or in a different manner, could be easily made applicable to the control of venereal diseases in civil communities. In July, 1903, I applied to the War Office for permission to publish some printed matter, the results of investigations in India from 1896 to 1901, and previously, on the control of venereal diseases in the Army. The absolute necessity of entirely revising the collection of venereal statistics, systematic case-taking, and accurate diagnosis was emphasised. Up to this date all cases of venereal sores, whether soft chancre or early primary syphilis, were indiscriminately recorded as primary syphilis or primary venereal sores. If secondary syphilis followed, then a change to secondary syphilis was made if the case happened to be in hospital. This was confusing and misleading. In September, 1903, therefore, a preliminary tentative scheme was brought into force—"Instructions regarding Procedure in Cases of Syphilis." Under this scheme syphilis and soft chancre became absolutely differentiated. From Jan. 1st, 1904, the scheme was made universal throughout the whole army at home and abroad, and was later incorporated into Appendix VII., Regulations Army Medical Services. Under this scheme all venereal sore cases after discharge from hospital are now kept under weekly observation, according to time spent in hospital, for two or four months before the diagnosis of soft chancre, or syphilis, is finally made. This is very important in limiting the local spread of disease arising from relapsed chancres, or a recrudescence of disease. Latterly, I have kept gonorrhœa cases under weekly observation for six weeks from date of discharge from hospital, with excellent results in lessening disease both in the case of the soldier and the local civil community.

If, therefore, the legislature in this country is later guided by our deliberations, the administrative system of control existing in the army can easily be adopted or improved on to meet the special requirements of civil communities in England. It is first necessary, however, to get legal control of syphilis in a manner that small-pox and other much less dangerous diseases are controlled. It is absolutely essential, from a public health point of view, to go to the legislature of the country with concrete proposals and undivided counsels.

In summarising the means at our disposal it is requisite to bear in mind that there are three main principles involved in the prevention and control of venereal diseases. First, control at the source which is concerned with prostitution before disease is contracted or spread. This embraces (*a*) medical notification of disease; (*b*) suppression of *souteneurs* and solicitation in the streets; (*c*) protection of orphans and destitute children; (*d*) police measures. Secondly, prevention by medical measures—i.e., prophylaxis by treatment after disease has been contracted. This includes: (*a*) provision of hospital beds and segregation; (*b*) professorships at large hospitals; (*c*) instruction of students and the public; (*d*) treatment. Thirdly, moral and religious considerations. These are placed last, but are by no means least, and are more applicable to youth and adolescence before disease is contracted. At the Brussels International Conference in 1899 the consensus of medical evidence was distinctly in favour of revised regulations for dealing with prostitution apart from the State control of vice (vide Appendix A). The abolitionists of regulation strongly advocated the *notification* of venereal diseases, female inspectors of factories, and reformatories for young girls aged under 21 who adopt a vicious life, where they could be taught a trade and be reclaimed.

If we recognise the cardinal fact that prostitution has always existed, and unfortunately must continue to do so for all time—since, as previously explained, it is largely dependent on poverty—it then becomes self-evident that to control disease which is the direct outcome of uncontrolled prostitution it becomes necessary to first effectually control all persons who practise it. This is the really important consideration as regards the community. The individual aspect in the interests of public health must be sacrificed to the general principles which govern our action. In law the individual aspect is frequently sacrificed to the general issues. This principle is rightly recognised and its utility is obvious. In public health questions, however, we yearly sacrifice thousands of lives and destroy a carefully constructed social fabric at every turn, because we do not recognise an elementary truth, or in recognising it fail to act. In the absence of the fulfilment of an impossible ideal such as the entire suppresion of prostitution, it is necessary to control its undue exercise by effectually preventing open solicitation in the streets, as in London, and limit prostitution by localising it. This is a police matter. Clandestine prostitution must be absolutely suppressed with a firm hand. To do this we must legally deal with the procurers of it, who are numerous, and with the incentives to it, which are many. Until public opinion is better informed it is hopeless to expect that any real progress will be made, our prisons will be full of prostitute women, as at present, and lunacy will continue to increase.

In conclusion, I quote from Mr. Lecky's History of Morals[8]: He deplores the fact "that an epidemic, which is one of the most dreadful now existing amongst mankind, which communicates itself from the guilty husband to the innocent wife, and even transmits its taint to her offspring, should be suffered to rage unchecked because the legislature refuses to take official cognisance of its existence, or proper sanitary measures for its repression."

APPENDIX A.—*Foreign Countries.*

In regard to systems of regulation of prostitution in foreign countries: At the International Meeting at Brussels in 1899 the question before the meeting was: Have the systems of regulation actually in force had any influence upon the frequency and dissemination of syphilis and venereal disease?

[illegible] l chiefs at St. Lazare Hospital, [illegible] ly inspection properly without [illegible] unrestricted syphilisation of the [illegible] made women professional prostitutes, as they were so before. Disease was due to immorality, not to regulation; passion was an eternal and imperative factor in human life, and regulation was a means of combating its attendant evils. If it had not yet succeeded, that was not a reason for abolishing but for improving it." He recommended "gentler" methods.

I understand that the old prison hospital at St. Lazare, Paris, is to go, and a hospital to be built for diseased prostitutes.

Professor Fournier "would not trust to statistics, but appealed to common sense. An infected prostitute was safe only when she was shut up." He stated that the opponents of regulation (abolitionists) minimised the appalling deformities and dangers of syphilis. Professor Lassar (Berlin) agreed with Professor Fournier, and considered "that an infected prostitute was a focus of disease which it was the duty of society to remove." Professor Neisser (Breslau) shared Professor Fournier's opinions and was opposed to the views of the abolitionists.

The Italian doctors drew attention to the very serious increase of disease in Italy on the abolition of Cavour's system by Signor Crispi in 1888. The same thing occurred in India in 1885, when 15 of the principal hospitals were closed as an experiment. The experiment being unsuccessful, the hospitals were reopened until 1888, and then closed until 1897. During this period the increase of disease was appalling. Control again began in October, 1897 (vide Tables III. and V.). Dr. Bortavelli (Milan) supported regulation. Professor Oltramana (Geneva) said that the question had lately been put to the vote in Geneva and regulation affirmed by a majority of two to one. He considered "that the success of regulation depended greatly upon the competence and carefulness of the physicians to whom the work was entrusted."

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[8] Vol. ii., pp. 280 et seq.

Professor Holst (Christiania) said that since the abolition of regulation in Christiania syphilis had increased 25 per cent. and clandestine [illegible] Professor Sturmer (St. Petersburg) [illegible] at unregistered prostitutes came to [illegible] ate." Professor Peterson said that [illegible] and moved "that supervision and [illegible] ortance in preventing the spread of syphilis.

To reduce the number of prostitutes the abolitionists of regulation [illegible] efforts [illegible] stage. [illegible] the provision of female inspectors of factories, more employment for women, and the notification of venereal disease.

Dr. Jullien (Paris) produced tables to prove that venereal disease [illegible]

[illegible] ase of women denounced [illegible] nation should be in the [illegible] ctual treatment was the [illegible] e essential—namely, im[illegible] ly of competent doctors, [illegible] knowledge."

APPENDIX B.—*The Cantonment Code, 1899, India: In force October, 1897.*

Par. 175. No public prostitute shall be permitted to reside within the [illegible]

[illegible] disease.

Par. 203. If the medical officer in charge of a hospital or dispensary [illegible] of practice becoming cognisant of the existence of an infectious or contagious disor[illegible] dispensary, in the [illegible] of such medical p[illegible] dwelling and bein[illegible] contagious disorder [illegible] being the person in charge of, or in attendance on, any person [illegible] to spread the disease. In this section the expression "infectious or [illegible] ound to make an [illegible] olice station, of any [illegible] provide or prescribe suitable routes for the use of persons passing through the cantonment (*a*) on their way to or from fairs or places of pilgrimage or other places of public resort, or (*b*) dur[illegible] disorder is prevalent, and [illegible] aforesaid to use such route [illegible] prescribed under Subsec[illegible] indicated by the cantonment authority.

Par 173. (1) In the event of the cantonment being at any time visited or threatened by an outbreak of any infectious or contagious disorder among the inhabitants thereof, or of any epidemic disease among the cattle, sheep, or goats therein, the general officer of the command, if he thinks that the provisions of this or of any law at the time in force are insufficient for the purpose, may, with the previous [illegible] Code.

Par. 208. No mendicant shall in any street or public place in the cantonment loiter or beg for alms.

Par. 210. The cantonment magistrate may on receiving information that any person whether resider[illegible] ent "is a disorderly person keeping [illegible] of any description" may prohibit [illegible] re-entering a cantonment, after r[illegible] cer commanding the station.

[illegible] re-entering the cantonment, fails to remove from or re-enters it [illegible] ding officer of the [illegible] for a term which [illegible]

British Colonies.

[illegible] complaint being made, and penalising persons importuning or "soliciting" for immoral purposes

Ceylon.—In Ceylon there is no special Ordinance for dealing with venereal disease. Ordinance No 5 of 1889, however, confers the power of "closing brothels reasonably suspected of being special centres of disease."

[illegible] Hospital one lock ward is maintained for males, and two in a separate block for females. Males, unless certified to be indigent, pay for their subsistence; females are treated and supported in hospital gratuitously. [illegible]

Again, in China, Hong-Kong, and in the Straits Settlements, control in anoth [illegible] Women's and Girls' Protection Ordin [illegible] of control by medical prophylaxis [illegible] exemplified.

APPENDIX C.—*Contagious Diseases Acts of 1864–66 and 1869 in England.*

Major (now Colonel) Macpherson, R.A.M.C., produced a diagram at the Brussels Conference in 1899 to show the curve of venereal incidence in 14 regulated and 14 non-regulated towns in Great Britain. The results closely approximated before and after the period in which the Contagious Diseases Acts were in force, but during the period separated widely in consequence of the lowering of the rate in the regulated towns.

Dr. Kromayer (Halle) exhibited a number of tables in 1899 to show "that the Contagious Diseases Acts in England had a distinctly beneficial effect upon the incidence of syphilis, but had not affected the frequency of soft sores or gonorrhœa."

A Royal Commission in 1870 reported on the working of the Contagious Diseases Acts of 1864, 1865, and 1869, and expressed the opinion "that the worst forms of the disease had been much reduced amongst the lower clas [illegible] women had also been benefited in an indirect [illegible] duced from 40 per 1000 in 1864 to 20 per 1000 [illegible] the United Kingdom. "The Acts have pur [illegible] nents to which they have been applied of miserable creatures who were mere masses of rottenness and vehicles of disease." The report further says, "We are satisfied from the evidence that the frequent examination of prostitute women is the most efficacious means of controlling the disease."

The Contagious Diseases Acts did not die a quick death in England. They were in force from 1864 to 1886, and their repeal was mainly due to political reasons. The late Sir Alfred Cooper in his work on "Syphilis" in 1895 gives full details with statistics on this subject.

FOREIGN BODIES IN THE AIR PASSAGES.

BY W. G. HOWARTH, M.A., M.B., B.C. CAMB., F.R.C.S. ENG.,

SURGEON IN CHARGE OF THE NOSE AND THROAT DEPARTMENT AT ST. THOMAS'S HOSPITAL; SURGEON-LARYNGOLOGIST TO THE VICTORIA PARK HOSPITAL.

DURING the last few years the recognition and treatment of foreign bodies in the air passages have become a much simpler matter than heretofore. This is mainly due to larger experience in the use of the instruments invented by Killian, Brünings, and others for the practice of the direct method, and to the improvement that has taken place in skiagraphy. Within the last decade the number of recorded cases has grown greatly, and it would scarcely be necessary to mention the following four cases with which I have recently had to deal were it not that one at least of them presents some unusual and interesting features. In two of the cases there was a definite history of the accident and a fairly accurate description of the appearance and size of the object; in the third case the possibility was thought of when the patient was seen for another reason, whilst in the fourth case the symptoms alone brought the subject under notice.

CASE 1.—The patient was a child, aged 9 months, who, after sitting on some rugs in the garden, had been brought into the house and put to bed; shortly afterwards the mother heard a strange noise and found the little one gasping for bre [illegible] noise when crying. A few hours [illegible] (Fig. 1) was taken. [illegible] was inserted and a [illegible] is seen to be impacted in the subglottic space, the upper and [illegible] between the vocal cords. The foreign body [illegible] pair of Brüning's forceps, and proved to be [illegible] toy trumpet which had been flattened by being trodden on.

CASE 2.—The patient, aged 50, came to the hospital one morning to apply for a new tracheotomy tube which he wore permanently on account of laryngeal stenosis. It was noticed that a portion of the old tube was missing, and as he said that he had had a cough for some days an X ray photograph (Fig. 2) was taken. The tracheotomy wound and the upper part of the trachea were painted with 10 per cent. cocaine, a bronchoscope was inserted, and the foreign body, located in the right main bronchus, was extracted with forceps.

CASE 3.—The patient, aged 20, was using a hairpin as a toothpick when her brother spoke to her and made her laugh. She swallowed the hairpin and had a short fit of coughing. She came to the hospital three days after the acciden [illegible] in the left side on respiration. An X ray [illegible] taken, and on the next day, under light [illegible] after scopolamine morphine, a bronchoscope was passed. One point of the hairpin was located in the left bronchus 29 cm. from the teeth. There was a considerable degree of inflammation of the bronchial mucosa and a great deal of mucopurulent secretion, so that it was not possible to be certain where the distal end of the hairpin was situated, but as one arm of the pin seemed to be lying obliquely across the lumen of the tube it seemed probable that the distal end was in the lower lobe bronchus. Both points seemed to be impacted in the bronchial wall. Attempts to dislodge it by gentle traction with the ordinary Brüning's forceps were not successful, and as it was thought probable that a better result might be obtained by the use of a snare further efforts were postponed for a few days. In the meantime Messrs. Mayer and Meltzer constructed several powerful snares 35 cm. long, and a few days later a bronchoscope was passed and an attempt made to get the loop of the snare over one of the points and so draw the hairpin into a straight line with the tube. This manœuvre was not successful, and so a low tracheotomy was performed and the tube passed through this. It was then possible by using a tube with a sloping end to disimpact the points of the pin, pass the sharp edge of the tube over one point, grasp the other point with Brüning's forceps, and draw it into the bevelled side of the tube. The tube and hairpin were then withdrawn. The tracheotomy wound was closed. There were no after symptoms and the patient felt perfectly well the next day.

CASE 4.—A boy, aged 10½, was holding a shawl-pin in his mouth, preparatory to putting it in his tie, when he took a deep breath and swallowed it; he had a slight fit of coughing but experienced no pain in the throat or in the chest. He was seen next day and an X ray photograph (Fig. 4) was taken. Under light chloroform anæsthesia a bronchoscopic tube was passed through the larynx, the pin located point uppermost in the left main bronchus grasped with a pair of forceps, and withdrawn through the tube. The bronchial wall did not appear to be inflamed and there was no excessive amount of secretion.

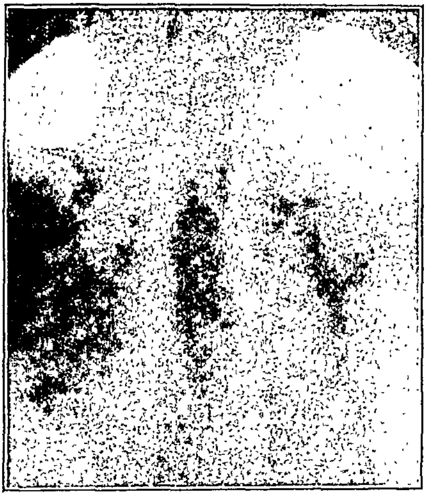
A necessary preliminary to the efficient treatment of a foreign body that has been inhaled is an exact idea of the size and shape of the object and its accurate localisation. When these two matters have been satisfactorily decided, the actual extraction is not in the majority of cases a matter of any great difficulty provided that the surgeon has efficient instruments and has had some practice in the use of them. A history of the accident often defines the nature of the foreign body, but a history is not very often obtainable in the case of small children, as the accident usually occurs when they are not under observation. When a foreign body is suspected an X ray photograph should always be taken. In small children instantaneous photographs do not always give good results, and an anæsthetic may be necessary before a satisfactory result is obtained. Attention should be paid to the position of the child, so that the bony landmarks may be as definite as possible. A lateral view should always be taken as well as an antero-posterior one. In Case 1 the illustration (Fig. 1) gives but little idea of the real size or shape of the object, but it was quite evident from looking at a lateral view that the object was a flat piece of metal almost half an inch across with its sharp edge sticking forward. A lateral view also in many cases indicates whether the object is in the trachea or œsophagus, especially in the cervical region. As regards localisation, however, an X ray photograph can only give a rough idea, and the position cannot be accurately determined until a tube is inserted and a careful examination made.

In all the above cases great help was afforded by the X ray photographs, but the objects were fortunately all metal ones and cast definite shadows. Other kinds of foreign bodies, such as beans, nutshells, or other vegetable material, are extremely difficult to see in a skiagram, and even pieces of bone, especially if they have become decalcified, are often very hard to recognise; this is particularly the case with foreign bodies in the larger bronchi, as these are apt to be much obscured by the heart shadow. In rather more than 50 per cent. of all cases a good skiagram will show a positive result, but considerable skill is required in the taking of them, and in this connexion I would express my indebtedness to Mr. Archibald Reid for the excellent ones that he provided for my cases.

In attempting accurate localisation it is well to begin by inserting a short tube spatula so that the mouth of the œsophagus and the larynx may be examined and the size of the latter estimated. If the larynx is clear the cords should be lightly swabbed with 10 per cent. cocaine and the largest size tube that seems advisable introduced. It is entirely unnecessary to drench the bronchial tree with cocaine as the mucosa is not nearly so sensitive as is usually supposed. After the main bronchi are reached excessive secretion and inflamed œdematous mucous membrane often obscure the view; the secretion should be aspirated or removed with wool mops, whilst a pledget of wool soaked in adrenalin to which a few drops of cocaine have been added markedly reduces the congestion and blanches the mucosa, thereby enabling the ring markings which are the surgeon's main rallying points to be recognised. If the main bronchi yield a negative result careful attention should be directed to the lower lobe bronchi and the middle lobe bronchus on the right side; the upper lobe bronchi are very rarely affected, which is perhaps fortunate, as they are by no means easy to explore. When the position of the object has been accurately defined the question of extraction is reached. The above cases afford examples of one of the easiest and one of the most difficult types.

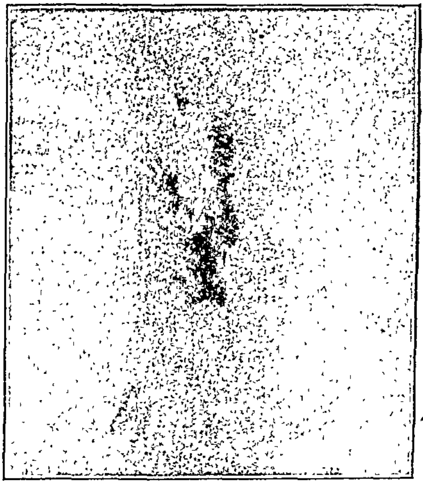
When once located it was the work of but a few moments to define the upper edge of the tracheotomy tube (Fig. 2) by

FIG 1.



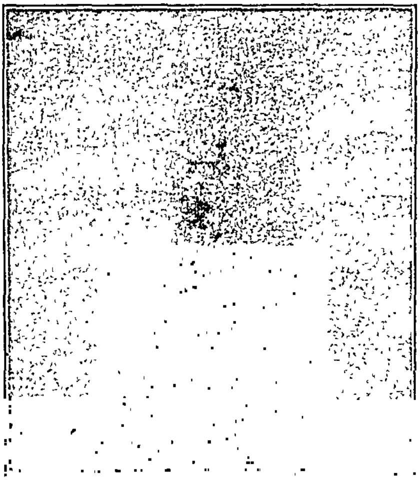
CASE 1.—Mouthpiece of a toy trumpet impacted in subglottic space.

FIG. 2.



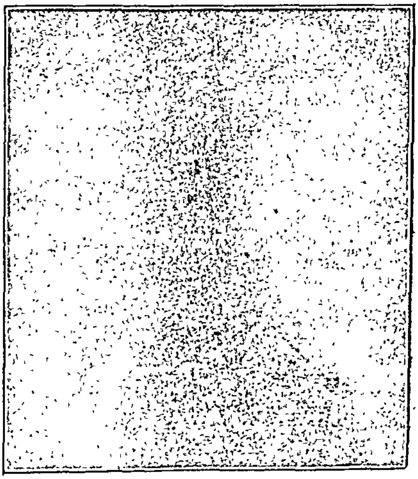
CASE 2.—Portion of a tracheotomy tube in the right main bronchus.

FIG. 3.



CASE 3.—Hairpin impacted in left lower bronchial wall.

FIG 4.



CASE 4.—Shawl-pin in the left main bronchus.

lateral pressure on the bronchial wall, to slip one blade of the forceps outside it and extract it. The localisation was not quite so easy, as the tube closely fitted the bronchus in which it had come to rest, caused no obstruction to the airway, and had its thin upper end obscured by slight overhanging of the bronchial mucosa. The hairpin (Fig. 3) was a more difficult matter, as both ends sticking upwards were impacted at different levels in the bronchial wall, which was acutely inflamed and obscured by mucopurulent secretion. The distance of the object, and the small size of the tube that could be employed prevented both ends from being seen at the same time, and the obliquity was such that traction on one end would only result in the other end becoming more firmly impacted. As attempts to approximate the ends by slipping a snare over them were unavailing it was decided to open the trachea low down. It was thought that lower bronchoscopy would afford greater power of mobility of the trachea, and there would be no possibility of the larynx being injured, as might easily have been the case, even if extraction by the upper method had been successful. A tube was inserted through the tracheotomy wound, one end of the hairpin grasped and pushed forcibly downwards, so that both ends might become disimpacted. By using a tube with an end cut very obliquely it was possible by the aid of forceps to get the sharp edge between one end of the hairpin and the bronchial wall. The tube was then pushed down and rotated until the other end of the hairpin was opposite the obliquely cut side of the tube. It was then seized with forceps and drawn into the tube, considerable lateral pressure being exerted on the bronchial wall. The obliquely cut tube made the procedure easier than would have otherwise been the case. Paterson was the first to see the advantage of an inner tube with the end cut obliquely, and his reversal of the usual Brüning's tube which has the outer one oblique and the inner straight ended is in many cases certainly an advantage.

The other bronchial case was quite straightforward, as the rounded-glass end of the shawl-pin was in the lower lobe bronchus and the point sticking upwards (Fig. 4), so that there was no objection to upper bronchoscopy, and the pin was drawn through the tube.

The laryngeal case was rendered more troublesome by the size and jaggedness of the object, the firmness of impaction, and the delicacy of the larynx in a child of 9 months. A small tube spatula was used and just before the moment of extraction this was rotated laterally and its end pushed between the cords without loosening the hold of the forceps on the foreign body; in this way the cords were momentarily held apart whilst the object was disimpacted and guided between them without any injury occurring. It might have been expected that trouble would be caused by subsequent subglottic œdema, but fortunately this was not the case.

Harley-street, W.

ACUTE EPIDIDYMO-ORCHITIS DUE TO BACILLUS COLI.

BY W. P. BONNER, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, a man aged 45, was admitted into the London Hospital on April 24th last, under the care of Mr. Hugh Lett. Twenty days previously he "strained" himself while lifting a heavy box at work. This caused him pain in the lower abdomen which was so severe that it made him sweat. The pain ceased after a few minutes, and after passing a large amount of urine he continued with his work as usual. Four days later he complained of frequency in micturition, at first every half hour, then seven to eight times a day and two to three times during the night. He consulted his medical man about this; "the doctor gave him medicine" (no injection). Two days later he had pain in the right testicle, which came on during the night. The right side of the scrotum gradually became swollen and red. He never had any urethral discharge or pain on micturition. There was no previous history of any venereal disease; he married at the age of 20, has had a family of 13 children, and his wife is living and in excellent health. No history of coitus since 10 days previous to the onset of the frequency in micturition. No family history of any tuberculous disease.

On examination (April 24th) the patient was a poorly developed, ill-nourished man. Temperature 100·4° F., pulse 94. The urine was acid, of specific gravity 1020, and contained a considerable amount of pus and mucus. The right half of the scrotum was swollen, red, very tender, and hot; the skin was adherent at the lower and posterior part. The right epididymis was extremely tender and enlarged so much that it almost covered the right testicle. The right testicle was swollen and tender (no hydrocele). The right spermatic cord was swollen and tender throughout the whole extent, which might be felt below the external abdominal ring. The right inguinal canal was tender on palpation. The urethra had a healthy appearance and was just moistened with clear mucus. No purulent fluid could be expressed by squeezing the penis. The prostate and vesiculæ seminales (felt per rectum) were not enlarged or tender. The left side of the scrotum and its contents showed nothing remarkable.

On April 30th the anterior portion of the urethra was washed out thoroughly with boric lotion. A sterilised soft indiarubber catheter of large size was passed without any difficulty, and a specimen of acid urine was drawn off. This specimen on microscopic examination showed a few pus cells and a quantity of coliform bacilli. Pure cultures of coliform bacilli were subsequently grown from this same specimen and an autogenous vaccine was prepared. On May 13th a soft fluctuating swelling appeared at the lower and posterior part of the right side of the scrotum. The skin over this area having been carefully prepared, the swelling was aspirated and a small amount of cloudy fluid obtained. Pure cultures of the coliform bacilli grew from this fluid. On May 15th the swelling (now more marked) at the lower end of the right scrotum was incised under a general anæsthetic. A small amount of material was removed which appeared to be almost entirely composed of disorganised tubules. No actual fluid pus was seen. On microscopic examination this material was found to be composed of a mass of necrosed tubules of testis and epididymis, coliform bacilli, and a few pus cells. Subsequently pure cultures of coliform bacilli were grown from this material. The urethra examined by the urethroscope appeared to be quite healthy; there was no stricture and no evidence of old or recent gonorrhœal trouble. Prostatic fluid obtained by massage of the prostate showed a few pus and epithelial cells, coliform bacilli, and staphylococci (no gonococci). Cultures taken from this fluid produced colonies of the coliform bacilli and staphylococcus albus. The coliform bacilli obtained on each of these four separate occasions were identical in structure and gave the reactions of Friedlände on sugars. Carefully taken radiographs showed no sign of any pathological conditions in the regions of the kidneys, ureters, or bladder.

The treatment of this case was as follows:—Rest in bed with the scrotum well suspended. Locally, at first, the application of moist heat in the form of boric fomentations and later (after incision) daily dry dressing with plain sterilised gauze. Medicinal: Maintaining the reaction of the urine alkaline by the administration of citrates and bicarbonates; bladder sedatives, hyoscyamus and buchu. Vaccine: Gradually increasing doses of the autogenous bacillus coli vaccine were given once a week, commencing with 5 millions and increasing up to 100 millions.

The patient has made an excellent recovery, the affected area of the right testis and epididymis being now represented by a small fibrotic nodule. The left epididymis and testis remain unaffected.

This case seems to suggest that some of the conditions of acute epididymo-orchitis of obscure origin, frequently associated with a history of strain, are due to an infection with the bacillus coli, brought on by a strain while the bladder is full of urine. I am indebted to Mr. Lett for permission to publish the case and for urethroscopic examination; to Mr. F. S. Kidd for investigating the prostatic fluid and also examining the urethra; and to Mr. T. H. C. Benians for the preparation of the autogenous vaccine and the bacteriological investigations.

A GERMAN FEMALE MEDICAL OFFICER OF SCHOOLS.—The municipal authority of Berlin has appointed Fräulein Martha Ulrich, M.D., as school medical officer, she being the first medical woman to obtain one of these school appointments.

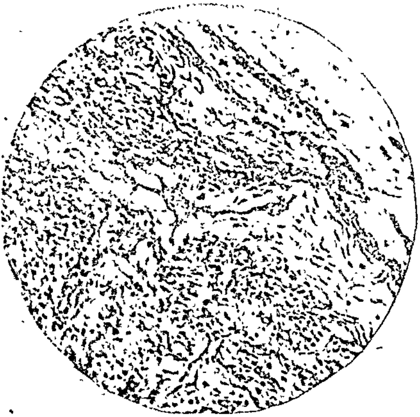
A NEUROMA-MYOMA OF THE MESENTERY.

BY PETER PATERSON, M.B., C.M. GLASG.,
F.R.F.P.S. GLASG.,
SURGEON, GLASGOW ROYAL INFIRMARY.

THE patient was a boy, aged 9 years, whose development was distinctly below the average. He was unable to speak till he was 6 years old, and now he has as classmates boys who are two to three years his junior. His physical condition is as poor as his mental. Till he was 16 months old he suffered much from gastro-intestinal derangements, but as his parents belong to a class whose idea of a suitable diet for infants is of the most elementary kind probably these derangements were due to unsuitable food. From that time he seems to have remained well till the beginning of this year, when he was admitted to the Royal Infirmary with symptoms which suggested an attack of appendicitis. He had pain, tenderness, and rigidity in the right iliac fossa, constipation, and vomiting. Temperature, 101·6° F. ; pulse, 136. Leucocytes 20,800, with a distinct increase in the percentage of the polymorphs.

He was operated on soon after admission by one of my assistants, who removed the appendix. This was found slightly congested, but otherwise was normal. During his residence in hospital he remained free from pain, but five months later he was readmitted with symptoms somewhat similar to those of which he complained on the previous occasion.

FIG. 1.

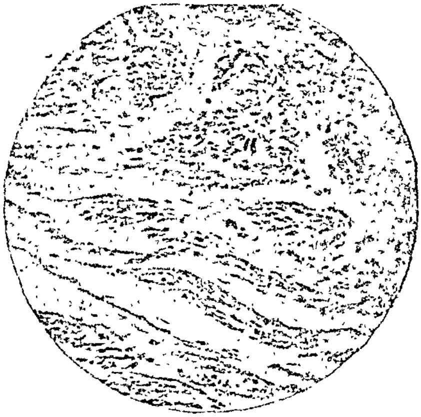


Section from centre of tumour showing medullated nerve fibres and ganglionic cell.

It seems that after leaving hospital the boy had severe attacks of abdominal pain, accompanied with vomiting and constipation, every seven to ten days. These attacks came on suddenly and passed off within 24 hours, leaving him apparently well. Soon after admission he had one of these attacks. The pain was so severe as to make him throw himself about in bed. It was continuous, but with exacerbations, and was felt all over the abdomen, though most marked in the lower half. Vomiting was frequent and bilious in character. There was no rise of temperature The attack lasted 24 hours, and during that time the bowels did not act. On examination of the abdomen a smooth oval tumour could be felt in the middle line, slightly below the umbilicus. It was tender on pressure and fairly freely movable. At the operation the mass was found lying in the mesentery with its long axis parallel to the vessels and its distal end about one inch from the intestinal border As it was encapsulated it was easily enucleated. The post-operative history was uneventful, except that for two days the patient was very sick.

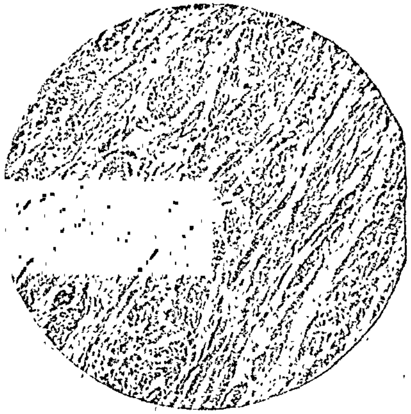
The tumour was smooth, oval in shape, and measured 6·5 cm. by 4 cm. When laid open a small part at the centre presented a soft, reddish appearance, while the larger peripheral part felt and looked like a hard fibroma. Sections were made from various parts of the tumour. Those taken from the soft, reddish centre were composed, almost entirely, of medullated nerve fibres, with a very few ganglionic cells. (*Fig.* 1.) The fibres ran in ill-defined bundles, these interlacing one with another, and bound together by connective tissue. In sections taken from parts nearer the periphery strands of plain muscle fibres appeared amongst the nerve bundles, and these gradually increased on passing outwards till, under the capsule, the tissue was almost entirely muscle. (Figs. 2 and 3.) The blood-vessels were numerous, but were not well developed, the intima being the only coat that could be definitely recognised.

FIG. 2.



Section from outer part of tumour showing strands of plain muscle fibres among the nerve bundles.

FIG. 3.



Section of tumour under the capsule where the tissue was *nearly all muscle.*

Both myomata and neuromata have been removed from the mesentery, but, so far as I am aware, a tumour composed of both those highly differentiated tissues is unique.

Glasgow.

THE RETRACTION RING AS A CAUSE OF OBSTRUCTION IN LABOUR.[1]

BY ROBERT JARDINE, M.D. EDIN., &c.,
PROFESSOR OF MIDWIFERY, ST. MUNGO'S COLLEGE; OBSTETRIC PHYSICIAN AND GYNÆCOLOGIST, GLASGOW MATERNITY AND WOMEN'S HOSPITAL, ETC.

I SHALL deal with this subject from the clinical side and leave the anatomical aspect of it to Dr. A. H. F. Barbour and other speakers. As to the situation of the ring, all that it is necessary for me to state is that it marks the junction of the active or retracting portion of the uterus with the portion which is passive and stretches. The part of the uterus below the ring constitutes the lower uterine segment. In an obstructed labour, say from a contracted pelvis, where the lower uterine segment is markedly thinned out and the upper segment well retracted, a sulcus can be seen and felt extending across the abdomen well up towards the umbilicus. This marks the situation of the ring. It may lie transversely or more or less obliquely. If an internal examination be made a ledge will be felt running round the uterine cavity at the upper limit of the lower uterine segment. In some cases it extends completely round, while in others, as in the specimen I show, it is not complete. It can be detected by an internal examination before its presence can be made out by palpation through the abdominal wall. I need hardly say that such an internal examination must be made with extreme care, when the ring is above the presenting part, as there is great risk of rupturing the lower uterine segment. That is what happened in the case from which the specimen I show was obtained. (See figure). It was a face presentation in a mento-posterior position, and after the ring had formed above the head forceps were tried, and then an attempt was made to do version. When the operator passed his hand in to catch a foot the patient suddenly collapsed. She was then brought into the hospital from the country, and she died in the waiting-room a few minutes after admission. We were allowed to remove the uterus, and after it was hardened it was opened, and a rupture through the muscular wall of the lower uterine segment was found of the exact shape of the back of a closed hand. The operator had recognised that there was a deep sulcus across the abdomen below the umbilicus before he passed his hand in, but he had failed to grasp its significance.

In ordinary cases of obstructed labour the ring is not the primary cause of the obstruction, but the result. However, it is not to such cases I wish specially to refer, but to those in which the ring is the primary cause of obstruction. These latter cases are not so common as the former, but when they do occur they are very much more difficult to recognise and also to deal with. So little attention has been paid to such cases that you will hardly find any reference to them in even the most recent text-books on midwifery. In some instances the ring actually forms in front of the presenting part, while in others it forms above the presenting part, just as it does in an ordinary case of obstructed labour. The presenting part may be either the head or the breech.

I. *Cases in which the Retraction Ring forms in Front of the Presenting Head.*

I have seen two such cases, both in hospital, one under my own care and the other under the care of my colleague, Professor M Cameron.

In my case the patient was a v.-para. Her four labours had resulted in the birth of dead children, but only the fourth one had been at full time. The pelvis was flattened with a true conjugate of 3½ inches. About a fortnight before full time I admitted the patient for a thorough examination, to decide whether or not to induce labour. I found the head could be pushed into the brim of the pelvis, so I advised her to wait to full time. The lower uterine segment began to dilate, and on making an examination a few days before labour was due I found the os would admit two fingers, and the cervix was taken up. The head lay at the brim, and it could still be pushed into it. There seemed every likelihood that the delivery would not be difficult. At the expected time labour pains began, but they ceased after a few hours. To hasten matters the largest Barnes's bag was inserted late in the afternoon, but it was quickly expelled. The pains continued throughout the night, and at noon of the following day the os was fully dilated, and the membranes were bulging well into the vagina. The head was now well above the brim, and in front of it was a well-defined ledge extending round about one-half of the cavity. The head could not be pushed into the brim, as the ring prevented its descent. A full dose of morphia was given, but four hours later there was no relaxation of the ring, so I performed Cæsarean section. At the time of the operation the membranes were still intact. At the request of the patient I sterilised her by ligaturing and cutting the Fallopian tubes. Both mother and child did well.

If this patient had had a normal pelvis I would have tried to dilate the ring manually, and if I had failed I would then have done Cæsarean section; but further experience has shown me that when the ring is once well formed it cannot be dilated manually, and if I should ever meet with a case with a normal pelvis I would advise Cæsarean section.

Professor Cameron's case was a very similar one as regards the size of the pelvis, but when we examined the patient the membranes had been ruptured for several hours. The os was fully dilated, but there was a distinct ledge running round about half the cavity in front of the head. The ledge prevented the descent of the head. As in my case, the cervix and lower uterine segment were well dilated. Morphia was tried, but it had no effect, so Cæsarean section was done by Professor Cameron. Both mother and child did well.

In both of these cases the pelvis was contracted; but it was quite evident that the obstruction did not arise from the pelvis but from the ring, and I do not think that the pelvic condition had anything to do with the formation of the ring. In my case the membranes were intact and bulging well into the vagina, while in Cameron's case they had been ruptured for some hours. In the latter case, I think, the ring must have formed before the membranes ruptured, otherwise the head would have been pressed down into the brim of the pelvis, and the ring would have formed above it, as it usually does in labours obstructed by contracted pelvis, when the membranes have been ruptured for several hours.

Causes of the formation of the ring.—One cause which has been given is the use of dilating bags. In my case the largest Barnes's bag was used, but it was so quickly expelled that it is difficult to understand how it could have been the cause. I have used dilating bags scores of times without any such result. Another cause which has been given is the use of ergot. Undoubtedly, the hour-glass contraction of the uterus, which occurs occasionally during the third stage of labour, is generally due to the use of ergot. Hour-glass contraction of the uterus during the third stage of labour is caused by the retraction ring, and in one of the cases I shall shortly narrate I had a very typical example of it. In neither of the two cases was ergot used.

In the first stage of labour we occasionally meet with a spasmodic condition of the os, where the circular fibres round the os have not been inhibited, and these fibres contract along with the fibres in the main body of the uterus, so that the os actually gets smaller instead of larger with each uterine contraction. Now, there is a considerable resemblance between the circular fibres round the os and the fibres of the retraction ring, and what causes the spasm in the former may cause it in the latter. Spasmodic contraction of the os is generally supposed to be due to an irritant which acts reflexly. I make this suggestion, but I must confess it is not much of an explanation.

Diagnosis.—There is no apparent obstruction to the advance of the head, and yet the labour is delayed, although the uterine contractions are strong and frequent. The uterus may be in a tetanic condition without any relaxation between the pains. On palpating the abdomen you will find that the head is well above the brim of the pelvis, and you cannot push it down. If the abdominal wall is thin you can feel the ring, but with a thick wall you may not feel it. On making a vaginal examination you find the os dilated and the lower uterine segment opened up, but some three inches or so above the os you feel a distinct ledge running round a portion or the whole of the uterine cavity *in front of* the head. During a pain this ledge does not relax, but it becomes more prominent and prevents the advance of the head. The membranes may or may not be ruptured. If they are intact they protrude into the vagina, and they may even be seen at the vulva.

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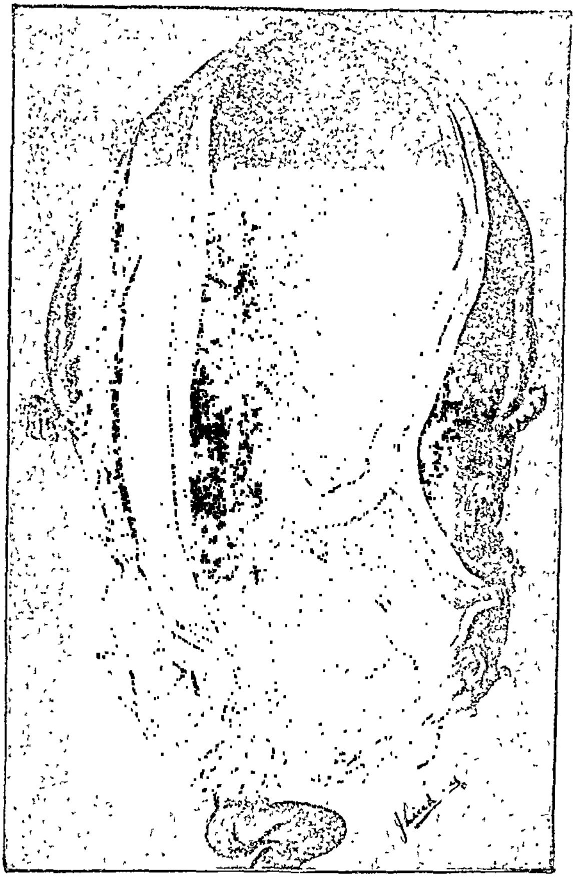
[1] A paper read at a meeting of the Edinburgh Obstetrical Society on May 14th, 1913.

Prognosis.—If the condition is recognised in time both mother and child should be saved; but, unfortunately, in many of the recorded cases a definite diagnosis was only made when exhaustion had set in, and there was little chance of saving either mother or child.

Treatment.—If the child is alive I am convinced that Cæsarean section is the proper treatment. Full doses of morphia or opium have been recommended, but I have never seen any effect in causing relaxation in a number of cases in which morphia has been used freely. Manual dilatation has also been advised, but the hand is powerless in such cases. Incision of the ring has been advised, but it would be impossible to prevent the incisions extending, and this would end in rupture of the uterus. Hydrostatic bags are useless, as you cannot introduce them high enough to bear upon the ring. If the child is dead it could be delivered by craniotomy, provided you have an instrument which will enable you to make powerful traction. If the shoulders are caught the clavicles should be cut.

2. *Cases in which the Retraction Ring Forms Above the Presenting Head.*

In these cases the membranes rupture before there is much dilatation of the os, or even before labour has begun. The first stage of labour is very prolonged, and by the time the os is fully dilated the ring has formed above the head round the neck of the child. There is no descent of the child, because the shoulders are obstructed by the ring. The case, from which the specimen I show was obtained (see figure), was probably of that nature, although it was a face presentation with the chin to the back. The pelvis was a very roomy one and there was no reason, so far as the pelvis was concerned, to prevent descent, even with the chin in a posterior position. However, I did not see this case until the patient was dying, so I cannot give the particulars in regard to the labour.



Rupture of the uterus showing the retraction ring. The posterior wall of the uterus is removed.

The following cases are typical examples of the condition:—

CASE 1.—The patient was a multipara with a roomy pelvis. Her previous labours had been easy ones. The membranes ruptured at

quite fully dilated, but full dilatation was easily effected manually. The head was high up in the first position, and not in any way

and I found that the head was above the brim of the pelvis, and there was no obstruction below it to prevent its descent, but on passing my hand above it I found the retraction ring was gripping the neck all round. I had never before seen such a complete ring. The finger tips could be pushed between the neck and the ring, but it was impossible to dilate it. I could not detect any fœtal heart sounds, but Dr. Holmes thought he had heard them shortly before my arrival. We discussed the propriety of doing Cæsarean section, but decided against it, as there seemed very little chance of savi

of the mother was not very favourable

axis traction forceps again, but they a

for some time. I then perforated the

instrument, which obtained such a po

was able to overcome the resistance of

There was no bleeding during the th

and suprapubic pressure failed to dislodge it. I passed my hand into the uterus and found that the placenta was separated, but it was gripped by the ring. It was a typical case of hour-glass contraction of the uterus during the third stage of labour. I removed the placenta and gave an intra-uterine douche. The patient was very exhausted, but with free stimulation and rectal saline injections she rallied and made a good recovery.

CASE 2.—I saw this case in consultation with Dr. T. C. Barras. The patient was a stout i-para with a very roomy pelvis. During her pregnancy she had suffered from an irritating vaginal discharge, which was treated by douching and swabbing out the canal. For several days before the actual onset of labour she had complained of pains which were evidently false ones, as no dilatation had occurred. When labour set in the membranes ruptured early, and the dilatation was very slow. After a good many hours the patient was becoming exhausted, so Dr. Barras decided to deliver her. The head was partly fixed in the brim of the pelvis, and on pushing it up to pass a catheter a gush of extremely foul liquor amnii came away. The odour was so bad that the anæsthetist suggested that surely the small intestine had given way.

I was called in, and found the head partly in the brim (L.O.A.), and it was not obstructed in any way. The stench from the liquor amnii was very overpowering. I emptied the bladder and applied Milne Murray's forceps, and with considerable difficulty got the head down, but not quite free of the vulva. The posterior vaginal wall and perineum gave way, but the sphincter ani remained intact. It was quite evident that the body was being obstructed, so I passed my hand up by the side of the head and found that the neck was tightly grasped all round by the retraction ring. The whole uterus had been pulled down, so the ring was about the level of the brim. I could get the tips of my fingers between the ring and the neck, but on trying to dilate the ring I could make no impression upon it, and my hand quickly became powerless. As the child was now dead, I passed a crotchet in and tore the right clavicle out, and removed the right arm. Even then the body would not come through, so I broke the clavicle of the other side, and by aking traction with the crotchet hooked into the chest, and pulling the head, the body was delivered. There was no great difficulty th the placenta. After douching and cleansing the parts I repaired e vagina and perineum.

The patient was very exhausted, but she soon rallied. She passed through a very stormy and prolonged puerperium, but ultimately recovered. Septic absorption occurred through the vagina, and she developed a pelvic abscess in the right side, which burst into the vagina. I dilated the sinus and evacuated large quantities of very foul-smelling pus on several occasions, but it was impossible to get free drainage even through a large vulcanite tube. Finally, openings had to be made in two places above Poupart's ligaments, in the right labium majus and in the thigh. An attempt was made to obtain a vaccine, but the bacteriologist reported that there was such an enormous growth of bacteria that he could not prepare one. The uterine cavity seemed to have escaped infection, as the discharges from it remained quite normal. The septic liquor amnii had nothing to do with the formation of the retraction ring. I have seen the same condition in several other cases, where the membranes had ruptured at the commencement of labour.

Causes.—The membranes rupture before there is any dilatation of the os, and the uterus soon gets moulded round the child. During the slow dilatation of the os retraction takes place, and the ring forms round the neck of the child; but there must be more in it than that, because we see many cases where the membranes rupture early, and many hours elapse before the os is fully dilated, and there is no obstruction to the advance of the body. There must be a determining cause, but it is difficult to say what it is.

Diagnosis.—If the patient is thin palpation will reveal the presence of the ring. Both of these patients were too stout to allow of this. An internal examination reveals that the head is high up, but it is not obstructed, and on passing your fingers beyond the head you feel the distinct ledge in front of the shoulders.

Prognosis.—If the condition is recognised early the chances for both mother and child should be good; but if it is only recognised after attempts to deliver have failed, then the prognosis is unfavourable, especially so for the child.

Treatment.—Opiates seem to have no effect in causing relaxation. In Case 1 several doses were given to assist the dilatation of the os, but this did not prevent the formation of the ring. Manual dilatation I have found useless. If the forceps will hold you may be able to drag the shoulders through, but in my second case I failed. When the child is alive undoubtedly the proper treatment is Cæsarean section. It will be necessary to divide the ring to allow extraction of the head, as occasionally has to be done in contracted pelves, where the membranes have been ruptured for some time and retraction has occurred. When the child is dead a crushing instrument which will take a powerful grip of the head, such as my combined instrument, will enable you to drag the shoulders through. Division of the clavicles will facilitate this. Version is of course contra-indicated.

3. *Cases in which the Retraction Ring Forms in Breech Presentations.*

When the legs are extended in a breech presentation impaction generally occurs. The breech comes into the brim, and there it sticks, although strong contractions are occurring. The usual explanation that is given is that the extended legs act as splints and prevent lateral flexion of the body. A splint should be rigid, and it should be firmly fastened if it is to prevent movement. I fail to see how the extended legs of a child fulfil these conditions. Not only are they hinged at the knees, but they are fairly flexible sideways, and they are only firmly fastened at the hip-joints. The upper end of the supposed splint is not firmly fixed.

When the legs are extended I believe that the true cause of the impaction is the retraction ring gripping the child behind the knees, so that its legs and feet are hitched above the ring. In these cases the membranes rupture early, and the whole of the liquor amnii drains away, and the uterus becomes moulded round the child. By the time the os is fully dilated the ring has become a very palpable ledge inside the uterine cavity, and with each uterine contraction it contracts and grips the child so firmly that descent is prevented. I have frequently demonstrated this to my residents in the hospital. In two instances in which I was called in consultation, after the attendants had failed to deliver by traction on the breech, both of the men told me that they had found a ledge inside the uterus which was causing the obstruction. In one of these cases the attendant had tried to deliver with a blunt hook, using all his strength, but had failed. When I delivered the child alive I found a large wound in its groin, which I had to stitch.

Diagnosis.—When the breech is impacted always suspect extension of the legs, and pass your hand in along the front of the child, and you will feel the ledge. You may be able to palpate it through the abdominal wall, but it can be recognised much earlier, and more easily, by an internal examination.

Prognosis.—The risks to the mother are very small if proper precautions are taken, and to the child they are not much greater than in an ordinary breech case which requires artificial delivery.

Treatment.—Traction upon the breech by forceps, fingers, fillets, &c., is of little use, and as for a blunt hook it should never be used on a live child. Have the patient deeply anæsthetised, then pass your flattened hand in carefully along the front of the child until you reach a foot, then sweep it inwards over the front of the child and bring it down. This must be done with care, as the lower uterine segment is thinned out, and if care is not taken it may be ruptured. When the leg is brought down make traction upon it, and get an assistant to keep up firm pressure upon the fundus of the uterus to prevent the arms going up and to keep the head well flexed. If the arms are caught they must be relieved by sweeping them over the front of the child, and the after-coming head must be dealt with in the usual way.

I do not think that sufficient attention has been paid to the retraction ring as a cause of obstruction in labour, and I trust the subject will be fully discussed. It is a rare complication of labour, but my experience shows me that it is commoner than is generally supposed. I have seen other cases than those I have mentioned; and in looking back I can recall a number of extremely difficult cases with which I have had to deal, which puzzled me at the time, but which I now recognise were cases of this kind.

Glasgow.

TUBERCULOSIS OF THE UTERUS.

BY J. W. THOMSON, M.A., M.B., C.M. ABERD.,
ASSISTANT SURGEON, WAKEFIELD GENERAL HOSPITAL.

TUBERCULOUS disease of the uterus may be primary or secondary, usually the latter, the source of infection being a tuberculous salpingitis; but the infection may also be conveyed by metastasis through the blood stream, or directly by coitus, as pointed out by Montgomery.[1] Tubercle bacilli have been found in the semen of phthisical patients. Those rare cases in which no other tuberculous focus is found constitute the primary form.

Three varieties may be described—the corporeal, the cervical, and the combined or cervico-corporeal form. The corporeal is the most common form and may be miliary or ulcerative, and is strictly confined to the body of the uterus, ending, it may be, abruptly at the internal os, as in Stewart's cases.[2] The disease may present the features of an ordinary endometritis, the true nature being only revealed on microscopic examination, or it may involve the musculature of the uterus in varying degrees. The cervical canal may be blocked, resulting in a tuberculous pyometra—the so-called uterine phthisis. Montgomery reports a case in which the disease was confined to the myometrium and had originated there, and was probably transmitted by the blood-vessels. The cervical variety is rarer and may be of the miliary, ulcerative or papillary form, resembling the venereal wart or early carcinoma, but is less friable than the latter, has less tendency to bleed, and there is free muco-purulent discharge. There may exist tuberculous disease elsewhere, and the microscope would decide. The cervico-corporeal form is of extreme rarity. The following is an example of the corporeal variety.

The patient, aged 20, had no family history of tuberculous disease. At the age of 13 an operation was performed for dysmenorrhœa. At the age of 18 several attacks of appendicitis were followed by the operation of appendectomy, which I am told was excessively difficult owing to pelvic adhesions. For two years fairly good health was enjoyed, after which she was again admitted to this hospital suffering from frequent, urgent and painful micturition. The dysuria soon subsided with appropriate treatment. A large amount of pus was present in the urine, which was acid and of normal quantity. No tubercle bacilli were discovered in it, but the bacillus coli abounded. Inoculated guinea-pigs died in a few hours From time to time the pus greatly diminished in amount or actually disappeared, and this was accompanied by pain in the abdomen and a rise in the temperature, which was at other times normal As a rule there was no pain or n Pirquet s test was negative much thickened right ureter ft ureter The uterus was fixed in the retroverted position Cystoscopy was difficult and no abnormal communication with the bladder was found *There were some tubercles round the right ureteric orifice* Neither kidney was palpably enlarged, and the amount of pus was too large to be derived from a kidney that was not easily palpable Accordingly, the abdomen was opened by a paramedian subumbilical incision

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[1] Keen's Surgery, vol. vi.
[2] Glasgow Medical Journal, April, 1912.

To the left side of the retroverted uterus over an area of the size of a florin the bladder was densely adherent On separating these structures a communication was found to exist between them admitting the index finger, on the one hand into the bladder and on the other hand into the uterus The friable bladder wall was sutured with difficulty The pelvic colon running from right to left was firmly attached to the fundus of the uterus This was separated and the wall of the intestine repaired The uterus was with ease separated from the rectum the finger merely traversing soft granulation tissue, but leaving an aperture an inch in length in the rectal wall The lumen of the rectum was narrowed as in Jellet's case[3] (Periodic attacks of diarrhœa were recorded) The Fallopian tubes were hard, irregular, and thickened These were freed, and the uterus was now attached to the cervix by a narrow ragged pedicle, which was divided The uterine arteries were not encountered, being obliterated probably by a tuberculous endarteritis and finally disappearing The internal os was obliterated In sharp contrast to the condition of the body of the uterus was that of the cervix, whose peritoneal coat was intact, and it might at first sight have been mistaken for the sutured stump of a supravaginal hysterectomy It almost seemed as if an attempt was in progress by the serous membrane to entirely separate the healthy cervix from the tuberculous body—a serous line of demarcation A suprapubic drain was introduced

The interior of the uterus presented two abscess cavities, the one above mentioned Above this was a small section with normal lumen Above this, again, was another abscess lined with tuberculous granulation tissue and containing some calcareous particles The wall of the uterus showed much caseous material The left ovary was not found, the right was of normal size and consistence, and lay on the floor of the pelvis in what seemed to be a separate compartment of peritoneum, and was not disturbed Certainly on the surface of the right kidney, and I think also on the left, tuberculous nodules were felt due to ascending infection by the periureteral lymphatics[4] There were no tubercles on the peritoneum

Pus disappeared at once from the urine, a little albumin remained The expected fæcal fistula developed There was a slight gain in weight, and the patient left the hospital with a lessening fistula and is now undergoing special treatment

Histology—The following report is by Dr M J Stewart clinical pathologist, Leeds Infirmary "Three separate portions have been examined microscopically and all show the same appearance The myometrium is infiltrated by large masses of tuberculous granulation tissue composed of innumerable aggregated giant cell systems Some of the larger masses are the seat of central caseous necrosis but this is not a prominent feature The process is a fairly acute one, and there is little or no attempt at peripheral fibrosis The tubercles are quite characteristic and large well formed giant cells occur with great frequency The endometrium appears to be completely destroyed Examination of the tube (one only) shows that the mucosa is still intact and is the seat of numerous typical tubercles The lesion appears to be a recent one or there would be more destruction of mucous membrane Several sections have been stained by Ziehl-Neelsen s method but I can find no tubercle bacilli in the uterus In the tube, however, one of the giant cells contains a tubercle bacillus "

Remarks—Patel[5] states—

> Hysterectomy is only allowable when the disease is limited as in an adenomyomatous tumour of the uterus which has undergone tuberculous degeneration or a common fibroid or even a carcinoma which may undergo similar degeneration while when the tuberculous disease is more of the inflammatory than the neoplastic type constitutional and specific treatment is necessary surgery being dangerous When however the appendages are implicated the uterus should be removed entire with Fallopian tubes and ovaries subtotal hysterectomy being unsurgical

In the above case operative treatment was obviously indicated, and I am convinced that if a diagnosis had been effected at an earlier stage subtotal hysterectomy followed by vaccine therapy and the general treatment of tuberculosis there would have been excellent prospect of cure In cervical tuberculosis high amputation of the cervix or even curette or cautery may bring about a cure

Early diagnosis of the corporeal form, both as regards the existence and the extent of the disease, must be excessively difficult and of supreme importance Dr Jellett points out *that he has never found tuberculous disease of the uterus* that did not eventually lead to serious complications The development of these serious complications—such as implication and perforation of the bladder with resulting pyuria, involvement of the ureters and kidneys, severe hæmorrhage, recto vaginal fistula, &c—would lead to further investigation and elucidation of the case It must, however, be our endeavour to prevent these calamities If a tuberculous lesion is found elsewhere, and there also exists any pelvic trouble, it would be well to think of tuberculous disease of the uterus and employ energetic treatment We must remember, too, that, as in the case reported above, an attack of appendicitis may be the signal that all is not well in a tuberculous sense with the pelvic organs Hence those small incisions the practice of many, the boast of some, are to be much condemned for through these thorough examination of other organs is impossible In cases of endometritis, anyhow of obstinate endometritis, the uterine scrapings should be submitted to microscopic examination, and if found to be tuberculous extirpation must be practised to avert the final horrors of the disease

Wakefield

Reviews and Notices of Books.

A Text book of Midwifery for Students and Practitioners By R W JOHNSTONE, M A, M D Edin, F R C S Edin, M R C P Edin, *Assistant to the Professor of Midwifery and to the Lecturer on Gynæcology in the University of Edinburgh, &c* London Adam and Charles Black 1913 Pp 485 Price 10*s* 6*d* net

THIS book has been designed primarily to supply students with a text book of convenient size, but special attention has been given to practical points and to the management of normal and abnormal cases, so that it may also prove useful to practitioners The early chapters on the development of the ovum and placenta have already appeared in almost their present form in the author's "Outlines of Early Development" They are good and up to date are much simplified by the omission of all references to comparative embryology, and the description has not been carried beyond the organs that have a direct bearing upon obstetrics The book is of interest since it is to a large extent a *résumé* of the teaching of the Edinburgh School of Obstetrics, or perhaps it would be more correct to say that of Sir John Halliday Croom, to whom the work is dedicated

It is always disappointing to find in a manual of this kind small inaccuracies which could easily have been avoided For instance in discussing the height of the fundus of the uterus at the various months of pregnancy, on p 79 we are told that at the end of the fourth month of pregnancy the level of the fundus of the uterus—by this no doubt the author means the upper border of the fundus—is about two inches above the symphysis pubis In Fig 53 it is correctly shown at a point about opposite the fifth lumbar vertebra, of the calling of medicine now taken by all who think deeply on the subject makes any alteration in the material prospects of the medical practitioner. In our opinion all the indications are towards the enjoyment by the medical profession of a greater prestige and a fuller power of expansion in the time ahead of us. We believe that the ranks of medicine will be recruited in the near future by men of as high scientific promise as ever, and possibly the recruiting will be larger; and we believe also that the whole level of general practice will be raised by the association of all its practitioners in some orderly manner with the developments of any branch of any science whence medical contributions are required. We are aware both of the bitterness of the struggle through which medical practitioners have recently passed, and, moreover, that that struggle is not yet past; but the fact that the material damage done to the medical profession has been counterbalanced by certain recognised advantages will prevent any disastrous numerical deficiency in our ranks, while all the signs of the times encourage us to believe that the approaching years will find the exponents of our knowledge, craft, and art in leading positions in the councils of the nations.

Malingering under the National Insurance Act and Medical Referees.

THE dissatisfaction of the Friendly Societies with the financial situation brought about by their expenditure upon medical benefits since the National Insurance Act has been in force took the form of a resolution at the National Conference of Friendly Societies[1] that the administration of medical benefits under the Act should be transferred to the Approved Societies. Apart from a transfer, which we think will not, and which we are certain ought not, to take place, the appointment of medical referees is the principal remedy suggested for the checking of an evil which no doubt exists, and which must at any rate contribute to the expenditure due to sickness to an extent which the Friendly Societies regard as unnecessary. The amount of malingering in existence is in question, and it is difficult to see how we can know the extent of the evil until some steps to remedy it are taken. Undoubtedly the checking of malingering presents grave difficulties, and the fearless and intelligent use of medical referees should do something to control it, but that it will restore the expenditure upon sickness to a point satisfactory to the managing bodies of Friendly Societies is not to be anticipated. They have always stood for thrift, but in the past their most obvious economy was at the expense of members of the medical profession, and the attitude of their own members towards the medical attendance and medical benefit provided by the Insurance Act is now the cause of the drain upon their funds of which they complain. It is not the fault of the medical men upon the panels that patients seek their aid, but it would be surprising that they should do so if that aid, when given, were of the character recited in one of the motions before the National Conference of Friendly Societies. Reference to it will show that it assumed "an excessive expenditure on medical benefit and the inadequate and unsatisfactory service obtained therefor," but in the discussion which took place this view was not accepted unanimously, and Brother STANTON, of the Rechabites, made an awkwardly unanswerable point when he observed that "whilst delegates in conference were saying one thing, their members were running to the doctors as fast as their legs could carry them. It was not the members who were saying that the medical service was unsatisfactory, but the officers of the society, because it was costing so much in proportion to what it did before." Brother STANTON'S words should be seriously considered by advocates of the administration of medical benefits by Approved Societies, who utter vague threats as to their power to restore the old order through the weight of the votes at their back. It is by no means certain that the votes of their own members would support them in their desire to restore medical attendance to its former position under the Friendly Societies.

What amount of malingering exists, as we have said, is doubtful, but the employment of medical referees seems a necessary preliminary for dealing with the question. Malingering is a form of fraudulent imposture which legislation for the benefit of the working classes has already increased through the Workmen's Compensation Acts, and which honest working men must desire to see detected and, if possible, punished. It must be conceded by all that the position of a medical referee appointed with the admitted object of checking expenditure upon sickness under the Insurance Act will be one of difficulty and of responsibility, and one which will only be adequately filled by a medical man who has the confidence of members of his own profession on account of his undoubted qualifications for the post which he will occupy. In the performance of his duties he will have to smooth his own way as well as that of others by the exercise of tact, but he will have at the same time to be a strong man occupying a strong position. These considerations have the double significance which is so eternally embarrassing. They point to the advisability of the medical referee being a whole-time official, remunerated by a salary which will attract a good man to the post, and employed under conditions which will ensure the independence of his actions and decisions. But they point to the necessity of selecting only a man who has first-hand knowledge of the difficulties of practice among the poor, and who is also a sound and seasoned clinician. Even then too much must not be expected from the medical referees, particularly as regards financial results. Their salaries and expenses will absorb an appreciable part of the economies which they will effect, if those salaries and expenses are to be defrayed from the funds which it is desired to protect. The public value of the appointments will depend, firstly, upon ascertaining how far malingering, justly so called, is responsible for the expenditure complained of. The expenditure on ailments formerly untreated (which is in some quarters particularly resented in the case of women) is not due to "malingering," even though no medical treatment was sought before the Act. And, again, though malingering may probably be the cause of a great deal of unnecessary expenditure, it has yet to be ascertained that it can be brought so promptly and so generally to the notice of medical referees that they will be able to check it entirely, or almost entirely. Medical referees, moreover, will not be infallible in their judgments, any more than those medical men whose patients they may be called on to examine, and the temptation to malinger provided by the Act will remain as before.

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[1] THE LANCET, Sept. 27th, 1913, p. 969.

A Women's Medical Service in India.

WE publish in another column the admirable address on the Medical Needs of India, which was delivered at the London School of Medicine for Women on the opening of the October session by Surgeon-General Sir Charles Pardey Lukis, Director-General of the Indian Medical Service. In the course of his address Sir Pardey Lukis, having dwelt upon the absolute necessity of the education of the Indian people in personal and domestic hygiene, as being the only way to lessen the dangers incidental to childbirth, to mitigate the horrors of a gross infantile mortality, and to remedy the sanitary defects owing to whose presence both plague and malaria are alike prevalent, comes to the essential fact that until the women of India are convinced as to the necessity of personal hygiene the root of all these evils cannot be reached. The only way at present of educating the people of India in the laws of personal hygiene is to rely on the magnificent efforts of the Indian Medical Service, of certain medical practitioners in India, of lecturers in association with the St. John Ambulance Association, and of missionaries. All these already discharge the duty of inculcating the principles of right sanitary living upon the populace, but unfortunately *purdah* intervenes, and only the male population of the empire can in this way be reached. Here Sir Pardey Lukis makes a significant statement, and one on which the whole of the scheme for a Women's Medical Service in India depends. He points out—and the information will be quite startling to many of us—that in the Indian home the wife and the mother are paramount authorities. So that, once let the women of the household be convinced that this, that, or the other proceeding is healthful and wise, reform will follow; but until this persuasion of the women can be achieved Sir Pardey Lukis thinks, speaking with an experience to which we willingly defer, that attempts to raise the standard of public health in India, to eradicate conditions leading to epidemic disasters, and to prevent the sacrifice of life now due to accidents of childbirth and infant mortality, will each and all be wasted to a considerable extent.

For the urgent needs of India at the present time an adequate supply of suitable and fully trained medical women is required, and Sir Pardey Lukis has exhibited to the London School of Medicine for Women the well-covered skeleton of a service designed to meet the existing position. The work both of missionary societies and of the Lady Dufferin Association, extraordinarily valuable and self-sacrificing as it has been, cannot pretend to cope with the conditions, and in particular the legitimate grievances of the medical women serving under the Lady Dufferin Association are admitted to require removal if recruiting for the association is to go on. The scheme outlined for a service to be called a Women's Medical Service in India shows in the first place careful provision for the selection of a small staff of 25 first-class medical women. Recruitment for the service will be made in two ways. In India a medical subcommittee of the Central Committee, including the Director-General of the Indian Medical Service, the surgeon to the Viceroy (who is *ex-officio* the honorary secretary to the Central Committee), and a first-class medical woman will select the candidates; in England a subcommittee consisting of a medical man and two medical women conversant with Indian conditions, to be nominated by the Home Committee of the Dufferin Association, will incur similar responsibility. In this way candidates will be properly examined for physical fitness, and it is provided that in the original constitution of the service duly qualified medical women who are already in the service of, or who have rendered approved service to, the Dufferin Association will have first claim to appointment; while thereafter special consideration will be paid to the claims of candidates who have qualified in local institutions and of those who are natives of India. The suggested terms of the new service are, we think, good. If it is objected that they do not err on the side of generosity, we have to remember two things: the first is that medical appointments, whether for men or for women, and whether at home or abroad, are seldom instituted on any but economical lines; the second is that the probationers of the new service will not be of any very great value to the scheme in its larger aspects during the early periods of their office. The whole service is instituted with the definite idea of getting into close touch with the domestic life of the native, and for this a knowledge of Indian ideas, standards, and traditions is absolutely required, and ability to converse adequately, if not fluently, in some of the languages of the country will be an advantage so extensive as to become almost a necessity. The terms of service are stated with considerable detail by Sir Pardey Lukis, and we refer our readers to them, but it will be seen that the salaries, which rise from R.350 per mensem to R.550 per mensem, will be supplemented by the provision of suitable quarters rent free, or by house rent in lieu, while travelling expenses at the usual rates can be drawn, and in addition to the usual privilege leave, eight months' furlough after four years' service will be granted, and study leave up to nine months. There will also be permission to engage in private practice so long as the performance of official duties is not encroached upon.

Lastly, there will be a provident fund as a provision for retirement. The rules of the provident fund are not yet formulated, but we are authorised to state that this fund will be contributed to separately from the pay of the members of the service, and not formed solely by deductions from salary. It may be taken for granted that whatever the members of the service put into the fund the Lady Dufferin Association will add an equal amount, and the whole will accumulate at compound interest until resignation. The proper amount of the contributions, the question of their forfeiture in cases of discharge for misconduct, the rates of interest and other details remain to be settled; but in the meantime we may point out that such a provident fund presents a flexibility that no pension scheme would possess. This fact is worth noting in the case of young women, who in the event of marriage would be able, with a short reasonable notice, to obtain their accumulated dues.

Annotations.

"Ne quid nimis."

PASSENGER SHIPS AND SMALL-POX.

THE Corporation of the City of London have recently drawn the attention of the Local Government Board to the risks of introduction of small-pox into this country through the Port of London. Many vessels arrive in the port within 14 days of their departure from ports at which small-pox is known or suspected to be occurring, and the corporation asked that the medical officers of health of port sanitary authorities should be empowered to inspect all persons on such vessels, to require them to give their names and addresses, and to detain on board any person whose address was considered unsatisfactory, suitable penalties being prescribed for non-compliance. The Local Government Board are reported to have replied that they did not consider, on the evidence before them, that they would be justified in adopting the course suggested, and the corporation in expressing regret at this decision have stated that in their opinion a serious loophole exists by which it is possible for small-pox to be introduced into this country. The possible introduction of small-pox in these circumstances cannot be denied, and the zeal of the City authorities, which is doubtless to be attributed to their apprehension of the results of the increasing neglect of vaccination, is to be commended. But it must be admitted that there are serious practical objections to their proposals. Although port medical officers of health cannot examine and detain passengers simply because the ship has come from a port in which small-pox is believed to be present, they can already offer vaccination and put in force measures of isolation and disinfection when the ship has had a case of small-pox on board or during the voyage, and they can also in these circumstances apply various other powers possessed by a medical officer of health on shore. But if the proposed new duties are to be added, and the work is to be done thoroughly, a large expense must be incurred in providing additional officers to undertake an irksome form of medical service, while the travelling public would be subjected to an amount of interference and inconvenience which ought not to be imposed without very strong evidence of necessity. Those who would put their main reliance on frontier action for keeping out small-pox would do well to study the recent experience of small-pox in Australia. In that country, where strict measures of exclusion are applied, the ports are few, the distances which have been travelled by the incoming vessels are long, and the conditions for securing defence by quarantine are almost ideal.

A PUBLIC HEALTH DISPUTE AT ARBROATH.

As a result of a considerable epidemic of scarlet fever in the town of Arbroath the hospital for infectious diseases became full, and the public health committee of the town council, in order to make some provision for the isolation and treatment of cases at their homes, decided to engage a visiting nurse or nurses who, when desired, were to undertake eucalyptus inunction and other proceedings adopted in what is known as the "Milne method." The medical officer of health, Dr. A. D. Yule, was instructed to circularise medical men in the district on the subject, but in the circular which he issued no reference was made to the "Milne method." His action in so doing was severely criticised at a meeting of the town council specially called to consider the matter, at which it was decided by large majorities that the intentions of the council should now be expressed to medical men and the public by the town clerk, and that the approval of the Local Government Board for Scotland should be asked to the nurse or nurses acting independently of the medical officer of health when requested by any medical practitioner in the town or by a guardian of a scarlet fever patient. A report in the *Dundee Advertiser*, from which our information is obtained, shows that Dr. Yule justified his refusal to carry out the wishes of the council on the grounds, first, that it was his duty to his medical friends not to attempt to impose any particular form of treatment on them; secondly, that the form of treatment to be offered was a medical question on which the town council had no right to dictate to him; and thirdly, that he was not willing to carry out the "Milne treatment" in Arbroath. The first of these arguments seems less strong than the other two. The public health committee does not seem to have wished him to do more than to supply facilities for treatment to such medical men as chose to avail themselves of them, and the committee may reasonably reply that medical officers of health make no such difficulties in other circumstances, such as the treatment of diphtheria by antitoxin, where facilities for treatment are afforded out of public funds. The root of the matter, however, seems to lie in the fact that the treatment which the committee desires to be supplied is one in the efficacy of which the medical officer of health disbelieves, and for which, on medical grounds, he feels unable to take responsibility. In these circumstances the town council has no more justification for objecting to his action than it would have if the town clerk advised that an agreement which it wished to make was illegal, or if its engineer reported that he considered the design of a bridge was unsafe. The views of the Local Government Board on the matter will be awaited with interest, and we would be surprised if that body were to give any decision which would discourage the expert officers of local authorities from fearlessly acting up to the opinions which they have formed, to the best of their ability, on the technical matters which fall within their province.

BOSSUET AS ANATOMIST AND PHYSIOLOGIST.

To the majority of our countrymen we fear that Bossuet is little more than a name, though most students of literature are probably acquainted with his Oraisons Funèbres as examples of "the grand style" in preaching, for which they were remarkable even in that century of sermons, the seventeenth. Few know, however, that amid the cares of the oversight of the diocese of Meaux he found time to write some 50 works chiefly dealing with philosophy, religion, the condition of the Church, and various controversial matters. One of his most noteworthy though little known treatises is that entitled "De la Connaissance de Dieu et de Soi-Même," written for the instruction of the Dauphin, afterwards Louis XV., an interesting critique and epitome of which has recently appeared from the pen of Dr. A.-F. Le Double of Tours.[1] The thesis which Bossuet set himself to defend was to show that the knowledge of God must be preceded by a knowledge of ourselves. To know ourselves we must grasp the fact that there are two parts in man, the soul and the body. These must first be considered singly and then as united.

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[1] Bossuet, Anatomiste et Physiologiste. Par M. le Professeur A.-F. Le Double. Paris: Vigot Frères. 1913. Pp. 301. Price 5 francs.

From the consideration of soul and body we rise to the consideration of God, who is the cause and end of both. The treatise concludes with a chapter on the difference between man and beast. In his chapter on the body Bossuet gives a very fairly complete account of the anatomy and physiology of the different organs, though naturally the errors prevalent at the time appear in his descriptions. On the whole, however, the account is worthy of his teachers and friends, Duverney, Stenon, and Winslow. Dr. Le Double, despite his admiration for Bossuet's treatise, has no hesitation in pointing out the errors, and a large portion of his first chapter is devoted to them, and is illustrated by historical notes. The remainder of the work is mostly occupied by an examination of Bossuet's psycho-physiological views. As regards the general problem of his thesis Bossuet was naturally a teleologist; he says, for example, in his fourth chapter, "Whoever shall understand man will see that he is a work of noble design which could neither be conceived nor carried out other than by a profound intelligence." His end, says Dr. Le Double, was to reconcile dogma, reason, and science, to grasp the Infinite and the eternal by the study of the Finite and the mortal which come under the apprehension of the senses. Whether or no he attained the goal which he had set himself to reach matters little in his opinion. "Every effort of the mind towards the unknown, or even the unknowable, is praiseworthy, whatever may be the result. The beauty of the dream is none the less because unrealised; none the less are the nobility and usefulness of the emprise" Dr. Le Double's eloquent and instructive book should tempt many towards a further study of Bossuet's original work.

PREGNANCY AND CANCER OF THE CERVIX UTERI.

CARCINOMA of the cervix complicating pregnancy is naturally a somewhat rare disease, and its frequency has been estimated at about 1 case in 2000 cases of labour. When the conditions existing in an advanced case of this kind are taken into account it is not surprising that such cases are infrequent; indeed, it is strange that pregnancy should ever occur. As might be expected, the patients on the average are of a younger age than those in whom carcinoma alone is present, but that it may occur in a patient as old as 40 is shown by the interesting case of this kind recorded in THE LANCET of Sept. 27th, p. 930, by Mr. H. B. Mylvaganam. This case is particularly interesting because the uterus was the seat of a twin pregnancy, and evidently conception had taken place after the onset of the growth. The age of the fœtuses was probably 3 months, and there was a history of a blood-stained discharge extending over a period of some eight months with several hæmorrhages from the uterus during the last three months. When pregnancy does complicate the course of a case of carcinoma of the cervix, in about 30 per cent. of the cases premature expulsion of the ovum takes place, and in only some 40 per cent. is a living child born. If pregnancy proceeds to full term there are many accidents which may occur during labour. Extensive tears of the cervix are likely to ensue, possibly involving the bladder or rectum, and rupture of the uterus has been reported in a considerable number of the cases. Even if the patient escapes the immediate dangers of delivery her death from septic poisoning is a very likely sequel. In one curious case recorded by Menzies and mentioned by Cullen, missed labour occurred, the patient finally dying some 17 months after the commencement of the pregnancy; the fœtus was found to be in a condition of *fœtus compressus*, the liquor amnii having been absorbed, but showed no signs of maceration. As might be anticipated, a carcinomatous growth complicating pregnancy grows with great rapidity, no doubt as a result of the marked vascularity of the uterine tissues. In the operative treatment of these cases there is still some difference of opinion, not as to the advisability of immediate operation—most obstetricians are agreed as to that—but as to the best route by which to remove the uterus. Not many years ago the operation of choice in the early months, at any rate when the growth was removable, was vaginal hysterectomy. The immediate results were much better than those of abdominal hysterectomy, and the ultimate results recorded by Olshausen were remarkably good. At the present time, however, most operators, whether the pregnancy was in the early or the later months, would prefer to remove the uterus by the extended radical operation, and the same arguments which are adduced in favour of this operation would, of course, hold good with even greater force in a case of pregnancy complicating a carcinoma of the cervix. Obviously nothing is to be gained by a preliminary emptying of the uterus if the abdominal route is followed, and the loosening of the cellular tissues which is present during pregnancy and the ease with which the ureters can be isolated in these conditions is only counterbalanced by the extra vascularity of the tissues. Among the first 500 cases of carcinoma of the cervix operated upon by Wertheim by the extended abdominal operation there were 8 cases of pregnancy, including 1 of tubal pregnancy. Of these 5 were alive and free from any recurrence five years after the operation. One died from pulmonary embolism, and 2 had a recurrence of the growth. Mr. Mylvaganam is to be congratulated upon the successful result of his operation, and a record of the ultimate fate of the patient would be of much interest.

MEDICINE IN THE ITALIAN PARLIAMENT.

THE Third Italy (writes an Italian correspondent) is agitated by an impending general election—an ordeal trying to any old constitutional country, but peculiarly so to one whose "risorgimento" is comparatively recent, with the additional aggravation of an abrupt lowering of the suffrage to include every adult who can read and write. The polling, on a day not yet officially fixed, takes place in October, and many are the forecasts as to which of the numerous parties, or rather "chiesole" (cliques), into which Italy is divided, will emerge victorious. The anticipation preponderatingly held, however, seems to be that the astute Premier, Giolitti, will retain his working majority—master as he is of electioneering tactics in which the influence of the local prefect, ever loyal to the party in power, is a factor far from negligible. One feature of the contest already in progress is the greatly increased number of candidates drawn from the medical profession. Hitherto it has been the legal calling that has furnished the majority of aspirants to a Parliamentary career. Indeed, the "avvocati," or, as a sarcastic public is fain to call them, "avvocatucci," have outnumbered all other professions in seeking and obtaining the coveted distinction of deputy. But the country has become a little weary of these loquacious gentlemen of the toga, whose eloquence has hitherto proved expensive in the inverse ratio of their experience or knowledge of public interests. It is this that explains the really remarkable number of physicians and surgeons, in consultant or in general practice, who have entered the field, cognisant as they are of the country's real desiderata, which may be summed up in Disraeli's memorable watchword in 1874, "Sanitas sanitatum omnia sanitas." Significant in this sense is the fact that it is precisely in those regions of the kingdom where the sick-rate and mortality are highest, where popular superstition invariably rises in antagonism to hygienic law, particularly in view, or in presence, of epidemic visitation, where physical degeneracy is most pronounced, causing rejection of

40 per cent. at the periodical military levy, that the medical candidatures in question are most numerous and most actively promoted. Southern Italy, notably the Neapolitan provinces and Calabria, are the regions indicated, no fewer than five medical candidates courting as many of their constituencies. Some of these gentlemen hold university chairs, besides being in consultant practice, and the question arises, How can they possibly find time to do justice to their pupils or their patients, on the one hand, and to their constituents, on the other? The answer is that what would be next to impossible in England is quite possible in Italy, where attendance in the House is by no means so frequently required, so prolonged, or so exacting as in the Mother of Parliaments. The Chamber of Deputies in Rome does not commence business till late in the afternoon, seldom before 3 P.M., and its business is invariably over in what in England would be regarded as the early evening, between 6 and 7. As a matter of fact, there have been physicians and surgeons enough in the Italian Chamber who have combined the two rôles, that of practitioner and that of Parliamentarian, to justify each and all of the many medical candidates now before the constituencies in embarking on the twofold career. Lanza, a Piedmontese consultant, honourably refused all official salary as Prime Minister on the ground that his professional honoraria sufficed for all his wants, while he found time not only to earn the said honoraria, but to lead up to the events which brought his illustrious client King Victor Emanuel in 1870 to Rome. Guido Baccelli is another of the consultants who hold a university chair and a seat in Parliament with conspicuous efficiency in both capacities. The eminent patriot and sanitary reformer, Agostino Bertani, surgeon-general in Garibaldi's revolutionary force, is yet another exemplar of the compatibility of the medical with the political career; while as to the senators who have been promoted from the Lower to the Upper House while keeping in touch as teachers and practitioners with medical science and practice their name is legion. Italy, indeed, has everything to gain by the presence in her legislature of public-spirited consultants and practitioners, who, with no ambition for office, are yet prepared to give their thought and experience to the body politic, claiming as that body does, a serious, a systematic rehabilitation, in the sanitary sense, to which no Italian with any sense of citizenship can now remain indifferent.

DEFORMITY OBSERVED TEN YEARS AFTER AN ACCIDENT.

IN the *Australasian Medical Gazette* of June 21st Dr. Max Herz has reported a remarkable case in which deformity was not observed until many years after the injury which produced it. A boy, aged 15 years, discovered one day that his left hand did not run in the long axis of the forearm but had grown at an angle towards the thumb. On examination he was well built and healthy. The left wrist was in the position of manus valga, the hand forming an angle with the forearm opening on the radial side. There was no pain or discomfort or disability. The left forearm measured ¾ inch less than the right. A history of an accident 10 years before was obtained. During a game he jumped from the roof of a shed and fell on his left hand. The wrist became slightly swollen and was painful for a few days. A skiagram revealed the cause of the deformity. The outer side of the radial epiphyseal zone had ossified prematurely, retarding growth; the ulnar side had developed into a spur, the growth of which pushed the hand into a valgus position. A disturbance of growth with resulting deformity due to injury of one side of an epiphyseal zone is not uncommon. The peculiarity in this case is the interval of ten years between the injury and the observation of the deformity. Both the boy and his parents were persons of high intelligence.

DIABETES IN INFANCY.

IT is well recognised that diabetes may occur in infancy, even at the age of a few days, but the cases are very rare. Of 6496 fatal cases of diabetes which occurred in England and Wales in the decade 1861–1870 the age was under one year in only 8. The following case, which is recorded in the *Johns Hopkins Hospital Bulletin* for September by Dr. J. H. M. Knox, is therefore of interest. A highly strung nervous woman gave birth, after a normal labour, to a female child. Two years before she had a severe attack of jaundice. The father, though in good health, limped from healed tuberculosis of the hip. There were an elder sister, aged 4 years, in good health and a brother who died at 4 months from some gastro-intestinal disorder. There was no history of malignant disease, syphilis, or diabetes in the family. The child was breast-fed but also given diluted cows' milk. At four months she had a severe attack of bronchitis, during which the urine was found to contain pus cells, which disappeared under urotropin. Several examinations during the following months showed not a trace of sugar in the urine. At five months the child was put on a malt soup mixture for some digestive disturbance. She thrived for a time and rapidly gained in weight. She was first seen by Dr. Knox at the age of seven months, when she appeared to be perfectly well, but she was taking an unusually large amount of malt soup. This was discontinued, and a simple milk mixture, containing two-thirds milk and 4 per cent. dextrimaltose, was substituted. She did well for a month and then was seen on May 26th, 1912, because she was not gaining weight. She was bright but rather irritable. Her weight was 19¼ lb. On May 30th, at the age of 8 months, she was found to have a temperature of 101° F. and a fruity odour in the breath. The urine contained between 4 and 5 per cent. of glucose and acetone. On May 31st she was put on "eiweiss" milk. Her weight had fallen to 16 lb. and her temperature was 99·4°. Under this diet the sugar in the urine fell to 1·5 per cent., but the general condition was not satisfactory, and on June 7th she was admitted into the Johns Hopkins Hospital. She apparently tired of the "eiweiss" milk, and was put on a mixture of 32 per cent. cream, albumin, and water (the mixture having a composition of 3 per cent. fat, 4 per cent. sugar, and 2 per cent. proteid). The amount of sugar in the urine rose, and a week after admission she became drowsy and increased amounts of acetone and diacetic acid were found. Sodium bicarbonate was administered, but she became more and more drowsy, comatose, and died 11 days after admission, having shown signs of pulmonary involvement. The necropsy revealed broncho-pneumonia and cloudy swelling of viscera. The pancreas was of normal size and of an iron-grey colour. The lobules were homogeneous in appearance, and here and there were small spots, apparently islands of Langerhans. On microscopic examination the lobules were seen to be separated by rather broad septa. In the interstitial tissue were many small round cells, which in some places seemed to replace the acini. The connective tissue and the islands of Langerhans were diminished in size and number. The capsule was thickened. The diabetes, therefore, appeared to be of pancreatic origin. In this case it is noteworthy that thirst and appetite were not greatly increased and that polyuria was moderate. Dr. Knox has collected 16 recorded cases of diabetes in children under the age of one year (including his own). In 3 cases the disease was noticed within a few days of birth In half of the cases a statement was made as to the family history In 3 it was good throughout, in 3 a grandparent or great aunt had diabetes In 6 cases the disease seemed to have followed an injury to the nervous system In 2 of these the infants sustained a severe fall on the head In 2 other cases the symptoms may have been associated with injury at birth, as the labours were difficult In 3 cases there was increased cerebral pressure from hydrocephalus, and in 1 malformation of the brain (anencephalus) In 3 cases the disease began after the giving of an unusual amount of sugar One baby was fed on condensed milk, another was given 150 grammes of sugar and a litre of milk daily, and in the present case a litre of milk was given containing 10 per cent of malt infusion The majority of the cases showed the following symptoms in common At first restlessness was noticed This was followed by increased thirst hunger, and secretion of urine Loss of weight was a prominent symptom Multiple abscesses were present in 2 cases, gangrene of the lung in 1, and a sore over the sacrum in another At least 3 cases ended in coma Three of the patients recovered The majority of the more rapid cases terminated in three weeks The prognosis is grave but not hopeless, unless the condition is present in a severe form Treatment should be begun early and follow the lines of the treatment in adults The carbohydrate tolerance should be determined and the sugar-content of the diet correspondingly reduced An "oatmeal day" or days should be given at frequent intervals

THE SANITARY INSTRUCTION OF THE PUBLIC

ACCORDING to Dr James Kerr, whose report as the Medical Officer for Education of the London County Council was published in our columns on April 12th, schools play only a minor part under present conditions in the dissemination of infectious diseases Nevertheless, it must be recognised that children coming from infected homes are possible bearers of infection, even although they themselves may not be ill The desirability of complete coöperation of parents and teachers, as well as of the general profession, with the school medical officers, therefore, is undoubtedly to be desired But to attain this end the dissemination of knowledge is necessary, and in this we may learn something, perhaps, from Transatlantic methods The Department of Health of Chicago distributes weekly a circular leaflet entitled the *Bulletin of the Chicago School of Sanitary Instruction*, which deals with such sanitary and hygienic matters as are for the time being of pressing import the wording being brief, plain, forcible, and to the point, as is fitting in circulars intended for public reading In the *Bulletin* for August 30th now before us the approaching reopening of the schools after the summer vacation has directed the attention of the Health Department to the importance of safeguarding the health of the children against infectious diseases when they reassemble, and the advice given seems sane and sound The active assistance of all school principals and teachers is called for in the work of segregating possible infection bearers, and it is suggested that this should be the first and all important work of the first school day Principals are therefore recommended to see that, prior to the assembling of classes, the rooms are well aired, every window throughout the building being thrown wide open for hours before the children enter it Reference to the health department's records of contagious diseases, which are kept on file in Chicago in the office of every school principal is recommended, with a view to ascertaining whether any families from which pupils come have had recently reported cases of infectious disease It is further recommended that the teacher should carefully observe each child, and should order all suspicious cases at once to an isolation room or out of doors, to await inspection by the school doctor, all cases of sore throat, eruptions of any kind, desquamation, congested watery eyes, snuffles, visibly enlarged glands or coughs being reckoned as suspicious As an additional precaution, when the pupils have taken their seats, all those who now have, or have recently had, any sickness in their homes should be asked to stand up, when a little judicious questioning will probably make it clear whether any suspicion attaches to them as possibly coming from infected places The cooperation of the medical profession in immediately reporting all suspicious cases, and insisting upon strict isolation until absolutely sure that all danger of infection is past, is called for, while parents are urged to comply strictly with the requirements of the sanitary authority by never sending an ailing child to school or permitting even healthy children from an infected house to mingle with other children, inasmuch as, even though themselves well, they may carry infection to others "If," says the circular, "there be a proper measure of cooperation between the medical profession and the health department, there will be fewer small coffins to buy this fall and winter" Such circulars may indeed prove a fruitful source of public education in hygienic and sanitary matters, and in the last resort the people must be their own saviours in these matters, and to act intelligently it is essential that they should be instructed in what they ought to do The *Bulletin* does not in its instructions fit in with any possible routine in our schools, but the principles which it has in view are those upon which our system of school inspection relies

THE EMETIC ACTION OF DIGITALIS

MUCH of the recent research into the action of digitalis and allied bodies has been provoked by the fact that the emetic action of the former has appeared to constitute a serious obstacle to its continued use, and many have sought diligently for some preparation of the drug which might be innocent of those baneful effects, or for an alternative medicament possessing all the virtues of digitalis but none of its vices Most of these investigators have accepted without question the belief that digitalis is a gastric irritant, and therefore an emetic One of the most interesting and valuable of the data revealed by the researches of Dr R A Hatcher, of New York, and his colleagues was that experimental administration of the drug to animals by the intravenous method provoked vomiting, and that this effect of the drug was due to its action on the medulla, not to any direct irritation of the gastric mucosa One of Dr Hatcher's fellow workers, Dr Cory Eggleston, has investigated the same matter from a clinical standpoint Eleven cases of cardiac disease exhibiting auricular fibrillation, and four cases of chronic valvular disease with regular rhythm, received digitalis either as a tincture or as an infusion, and its emetic action was carefully studied with especial reference to its connexion with the cardiac effects of the drug (slowing of the pulse, alteration of the rhythm, and definite clinical improvement) Case records from the literature were examined along the same lines The result of these observations is remarkably uniform In 106 courses of digitalis treatment marked by nausea or vomiting there was clear evidence in 100, or 94 per cent, that the drug had been absorbed in quantities sufficient to produce a definite cardiac action before vomiting occurred Another fact which is strongly antagonistic to the gastric irritant theory is brought forward by Dr Eggleston, he quotes a number of cases in which very large single doses of digitalis (in one case 2 drachms of the tincture) were given without provoking any gastric symptoms whatever In view of these facts he argues that it is impossible to regard digitalis as emetic by virtue of an irritant action on the gastric mucosa; it is one of those drugs which cause vomiting by stimulation of the "vomiting centre" in the medulla. If general clinical experience should confirm this, it is a deduction of considerable importance; vomiting will be regarded not so much as an unfortunate check to the further administration of digitalis as an indication that the drug has been absorbed in adequate quantities. In the discussion which ensued upon the reading of Dr. Eggleston's paper at the Minneapolis annual meeting of the American Medical Association, Dr. Hatcher remarked that strophanthus is less emetic than digitalis for two reasons: first, it is less readily absorbed than the latter, and secondly, it possesses a smaller proportion of the emetic principle in relation to its cardiac activity.

THE RESEARCHES OF DANIEL HANBURY.

THE seventy-second session of the School of Pharmacy was inaugurated on Oct. 1st in the lecture theatre of the Pharmaceutical Society. The address was delivered by Dr. F. B. Power, Ph.D., LL.D., director of the Wellcome Research Laboratories, to whom during the proceedings Mr. E. White, President of the Pharmaceutical Society, who presided over the meeting, presented the Hanbury gold medal. Appropriately enough, Dr. Power chose as the theme of his discourse "The Influence and Development of Some of the Researches of Daniel Hanbury," for Hanbury was one of the earliest and most brilliant of the students of the school, and it is to perpetuate his memory that the medal is awarded biennially for high excellence in the prosecution and promotion of original research in the chemistry and natural history of drugs. The researches of Hanbury himself, as Dr. Power pointed out, did not include a great deal pertaining to the chemistry of drugs, but, on the other hand, historical and botanical studies had a special attraction for him, particularly in their bearing upon the history and source of drugs. The first communication made by Daniel Hanbury to the Pharmaceutical Society was entitled "On Turnsole," a product obtained from a plant indigenous to Southern Europe and the Orient. The expressed juice of this plant is at first of a dark green colour, but it speedily assumes a purple hue on exposure to the air; since Hanbury's investigations it has been shown that turnsole is used in Holland for the purpose of giving Dutch cheeses their characteristic red colour, and Dr. Power suggested that the chemistry of this product is a suitable subject for investigation, since it has been asserted that it possesses toxic properties. Other researches of Hanbury to which reference was made were those on the resin of the Norway spruce fir, on otto of rose, and on Chinese drugs. His contributions to Chinese materia medica were conducted 50 years ago and naturally involved very great difficulties on account of the little-known language and the limited facilities at that time for securing accurate information. Dr. Power made no reference to his own researches into the chemistry of drugs, the records of which form extremely valuable additions to pharmaceutical literature. He pointed out to the assembled students, however, that notwithstanding all the recorded facts and observations and the wonderful progress that had been made in recent years, the boundaries of science are constantly becoming enlarged, and with the broader view that is thus obtained the scope for effort and achievement expands. "The vast continents of Africa and Asia and the forests of South America, as well as the islands of the sea, doubtless contain among their natural resources," he said, "many thousands of plants which have never yet been touched by human hands, and a still larger number which have not as yet been named or classified. This wealth of material which Nature has provided will be sufficient to engage the attention of both the botanist and the chemist for a period of time so remotely distant that it cannot be forecast. There can, furthermore, be no doubt that the chemical study of the countless number of plants or plant products whose constituents are as yet completely unknown, will not only reveal much of scientific interest, but also principles of medicinal value which may be capable of alleviating some of the ills of mankind." The field of research is, in fact, practically unlimited, and the new Hanbury medallist is doing his share in the work of exploration.

THE HISTORICAL MEDICAL MUSEUM.

THE history of medicine is a subject which has of late years, in this country at any rate, attracted far more attention than formerly. The Royal Society of Medicine has organised a section of the History of Medicine, a section which held its first meeting on Nov. 20th, 1912, and in addition, also for the first time, a section in the same subject has formed part of the proceedings of the International Congress of Medicine which has just concluded its deliberations in London.

The history of medicine is a study of very many, and at first sight of widely divergent, matters, and the ideal medical historian would be a man of encyclopædic knowledge. He should know Greek, Latin, and Arabic, to mention only the three principal languages, as well as his own tongue. He should have a knowledge of palæography, be an accomplished physician and surgeon, have a knowledge of ecclesiastical history and the lives of the saints, and in addition be no stranger to anthropology and folklore; for the history of medicine is a part, and no mean part, of the history of human intellect and of search into the two great mysteries of life and death. Primitive medicine was, and is still among the few primitive races who are left, mainly concerned with amulets, charms, and incantations, i.e., songs. So in the Odyssey, when Odysseus's thigh had been ripped up by the boar, his father and brothers stanched the blood with a song, though with that practical wisdom which distinguishes the Homeric Greek they put a bandage on first:

> *ὠτειλὴν δ' Ὀδυσῆος ἀμύμονος ἀντιθέοιο*
> *δῆσαν ἐπισταμένως, ἐπαοιδῇ δ' αἷμα κελαινὸν*
> *ἔσχεθον* *Od. XIX. 456–8.*

Just as the study of medicine, surgery, and pathology is aided by the magnificent collection known to all as the Hunterian Museum, so a collection of articles bearing on the history of medicine is an aid to the study of that subject, and such a collection is now on view in London at 54A, Wigmore-street, a collection organised by Mr. Henry S. Wellcome and the result of some years' hard work. The museum was formally opened on June 24th, the proceedings commencing with an admirable address from Dr. Norman Moore, President of the Section of the History of Medicine in the International Congress, and attracted considerable attention from visitors to the International Medical Congress; indeed, the visitors' book would be an enviable possession for a medical autograph hunter. We have already given a short account of some of the exhibits in our issue of July 5th, but the field covered by the exhibition is so wide that we think it well to speak at greater length concerning some of the more interesting and somewhat recondite exhibits than was possible in the former article. Primitive medicine is well represented in the entrance hall by a collection of charms, fetishes, and professional dresses of medicine men from Africa. Here also are a very interesting collection of skulls showing early and prehistoric trephining. The peculiar characters of the trephine holes are noticeable for comparison with results in another case obtained by Dr. T. Wilson Parry, who trephined a number of modern skulls with prehistoric flint instruments. The correspondence of the results in the two cases is striking. There are also specimens showing the large percentage of bone disease and the prevalence of gall-stones and other

FIG. 1.

rber-surgeon's shop of the sixteenth century (reconstructed).

FIG. 2.

An accouchement room of the sixteenth century (reconstructed).

FIG. 3.

The Hall of Statuary: Oriental, Egyptian, Greek and Roman deities of healing, votive offerings, surgical instruments, &c.

conditions among the remains found in a prehistoric Ethiopian burying ground now being excavated for Mr. Wellcome at Gebel Moya in the Sudan, as well as the method adopted for preserving the specimens.

In the central hall or Hall of Statuary (Fig. 3) are statues of deities of healing such as Ixlilton, the Mexican god of healing, Apollo, Æsculapius, Hygeia and Cheiron for Greece, Shen-Nung of China, Dhanwantari of India, Ed, Gula, Adapa and Marduk of Chaldea and Babylonia, and Thoth, I-em-Hotep and Ptah of Egypt. On the staircase leading to the gallery are three pictures of St. Luke, St. Cosmas, and St. Damian respectively. These saints are three of those connected with medicine, and tradition has it were all medical men, the first being the subject of a most interesting paper read by Miss M. Stawell at the Congress, upon which we commented in our issue of August 16th. The two latter saints are not so well known, for they were in the main Eastern saints, though as patrons of the great Medici family they obtained a certain vogue in Florence, where they are represented in numberless pictures in their doctorial robes. It is said that the medical year beginning on Oct. 1st has its origin in the fact that that is their feast day. Other saints connected with medicine and invoked especially against the plague were St. Roche and St. Sebastian, the latter being specially venerated in Umbria and Tuscany, the former in Venice. All round the gallery are hung a series of water-colour copies of illustrations from manuscripts dating from the fifth to the seventeenth century, and in the gallery itself are cases containing charms and amulets, many of them collected in the East-End of London or in country places in our own day. Belief in charms is by no means extinct even among educated persons in the present day. Thus, as Dr. Norman Moore mentioned in his address at the opening of the museum, he once met a lady who carried a potato in her pocket as a cure for rheumatism, and we ourselves have had a similar experience, only in that instance the complaint was neuritis.

In the central hall also are cases showing surgical and obstetrical instruments, Oriental, African, and Græco-Roman; and the probable source of inspiration of the speculum now known as Ferguson's is shown in a case which presents one of these instruments in juxtaposition with a speculum constructed, according to a description in the Talmud, from bamboo, and another formed from the stem and lower part of a gourd. The origin of the term speculum, which really means a mirror, is suggested in a drawing from a Flemish print of the sixteenth century, in which the method of examination of the internal passages is shown. A medical cleric is seated with his back to a woman in whom a three-bladed dilator (of which several specimens are shown) has been introduced into the anus. He holds a mirror (speculum) high up in front of him to catch over his shoulder the reflection of the rectum thus opened up. It is possible that reasons of propriety suggested this use of the mirror in place of direct inspection, and that when the mirror was discarded the name speculum was transferred to the dilator itself. This method of inspection by mirror and dilator is mentioned in a MS. by Bernard de Gordon (1301) and by Avicenna.

The illustrations from manuscripts are a most valuable and instructive series, and we should much like to see them reproduced on a smaller scale and published as a collection in book form, for they represent a scattered treasury of information that is mostly otherwise inaccessible. There are delightful pictures of the collection of mandrakes, of surgical operations, of scenes in hospital, of botanical drawings, from Dioscorides and ancient herbals, of St. Apollonia being tortured by having her teeth pulled out, of birth scenes of the Cæsarean operation, of physicians and nurses, of post-mortem examinations, and many others. One picture of great interest shows the Emperor Valerius, as he is called in the catalogue, but who is better known as Maximin Daza, being eaten by worms. This picture is numbered 45, and we fancy that No. 291, which is described in the catalogue as "King Suffering from a Parasitic Disease" is really another picture of Maximin, though it might be the Herod who suffered the same or a similar fate. Another Emperor, Galerius, traditionally died in the same manner. Those anxious to know more of this subject will find it treated at length in Dr. Richard Mead's "Medica Sacra" under the title of The Disease of King Herod.

Another section of the museum is devoted to pictures and engravings of medical scenes and to portraits and busts of medical men, prominent among which is a magnificent series of portraits of Harvey, in addition to a copy of his bust as it stands upon his tomb in Hempstead Church, Essex. These copies were made to the order of the late Sir George Paget, and the one in the museum is lent by Mr. C. E. Paget. In the alcove is another equally interesting collection of portraits and relics of Jenner.

In the next room is a collection of MSS. and early printed books relating to medicine and surgery. A number of these were printed in English about the time of Queen Elizabeth, and deal mainly with surgery, for physicians at that period almost invariably wrote in Latin, and had, as a rule, a far better general education than surgeons. Some surgeons, however, knew Latin, for the author of a book called the "Key to Unknown Knowledge, or a Shop of Fine Windows," printed in 1599, deals in his first chapter with the judgment of urines, and says in a preliminary note that he has gathered together rules for the judgment of urine from divers authors for the benefit of his fellow chirurgians "which have not the Latine tongue."

Among the ancient MSS. of special interest are: Livre de Medécine d'Histoire Naturelle, by Huges de Salve, in French, dated 1390; MS. on Astrology, in Latin, Canones Super Tabulas, author unknown, dated 1296; MS. Inventory of the Hospital of St. John of Florence, dated 1397 to 1427; MS. Antidotarium, and other treatises, by Nicolaus Praepositus, in Latin, thirteenth and fourteenth centuries; MS. De Arte Medicine, with Ysagoge Johannicii, in Latin, fourteenth century; MS. Chirurgia, by Guglielmo di Saliceto, in Italian, fourteenth century; MS. A Treatis of Urines and Medicynes, in English, dated 1320. Among the more important Incunabula are: Practica de Medicinis, by Johannes Mesue, first edition, 1471; De Fructibus Vescendis, by Baptista Massa de Agenta, ca. 1471; Tractatus de Arte Cognoscendi Venena, by Arnoldus de Villanova, ca. 1473; De Medicina, by Cornelius Celsus, first edition, 1478; Tractatus de Regimine Sanitatis, Dominicus de Lapide, 1477; Liber Canonis, Gerard of Cremona, 1479; Herbarius zu Teutsch, Augsburg, 1496, the first German Herbal; De Morbo quem Gallicus vocatur, Coradinus Gilmus, 1497 (probably the earliest printed book on syphilis).

Here, also, in a glass show-case are an interesting collection of curious anatomical manikins, 15 in number, carved out of ivory, and showing the internal organs, the fœtus in utero, &c., in removable parts, which were probably used for instruction in midwifery in the fifteenth and sixteenth centuries; while in the basement below is a leather female manikin with dilated vulva and movable model of the fœtus and placenta, used in the seventeenth century for demonstrating the process of parturition to students in the old Hospital Pistoia.

In a gallery are a number of diplomas. Many of these from Italian Universities are beautifully illuminated. Harvey, it will be remembered, graduated at Padua, and a facsimile of his diploma was published in 1908 by the Royal College of Physicians. A copy of this facsimile is exhibited together with the portraits of Harvey. It was fully described in our columns at the time of publication. Among the diplomas may be specially referred to those granted to Joseph Serra in 1734 by the Medical College of Bologna, to Bernado José de Cavalho in 1777 by Mary, Queen of Portugal, to William Forester in 1608 by the University of Caen, and to Francis Henry in 1655 by the University of Montpelier. In the same section are a fifteenth-century Italian manuscript document referring to a miraculous cure of pestilence which occurred in Venice in 1464, and a free pass in time of pestilence issued in 1713 at Riana, Tuscany, the only one known to be in existence. Another very interesting exhibit in this section is a facsimile Greek Drug Order of the first century, warning the vendor against selling stale or adulterated drugs. A demand from the rector and council of the University of Pavia to the Inquisitor of Witches, asking him to deliver for anatomical purposes the body of a woman who had been sentenced to be burnt alive indicates the pressure in the early sixteenth century in the problem of the supply of anatomical subjects.

The basement of the museum is mainly devoted to pharmacy. There is a reconstruction of John Bell's shop as many of us can remember it in Oxford-street. Bell was the founder of the Pharmaceutical Society, and the shop was built in 1798. Another reconstruction shows a seventeenth century apothecary's shop which used to stand in the Old Bailey, and yet another, an alchemist's laboratory, *circa* sixteenth century, with original apparatus; also reconstructions of a barber-surgeon's shop (Fig. 1) and an accouchement room (Fig. 2), both of the sixteenth century, and of a Roman surgery in Pompeii. In this room also is a very fine collection of Italian and Flemish drug jars. Further along is a section devoted to nursing, with a number of portraits of Florence Nightingale.

We have reserved to the last some exhibits illustrating the more recent history of medicine. In the entrance hall is a collection illustrative of the progress of research in a matter that of late years has come greatly to the front—viz., pellagra. Dr. L. Sambon's theory is that the disease is due to the bite of the female simulium fly, of which insect specimens, both male and female, are shown under the microscope. Charts of regions where pellagra is endemic are shown, indicating that the distribution of the disease in all countries follows the course of swift-running streams in the high lands midway between the plains and the mountains. The distribution is, in fact, inverse to that of malaria, for the anopheles lays its eggs in the stagnant waters of the lowlands, while the simulium finds its most favourable environment for development in the rippling streams and freshets. The simulia have only a brief life in the torrential streams of the mountains, and are scarcely found in the sluggish streams of the low-lying lands. There is also a seasonal prevalence of the fly in the spring when freshets are abundant. This proof of the correspondence of the distribution of the disease with that of the simulium is displayed in charts of the Provinces of Urbino, Pavia, Brescia, Udine, and Venezia in Italy, as well as in charts of Northern Italy, Roumania, the Tyrol, and particularly the province of Bucharest. The outstanding fact in the province of Bucharest particularly is that the peasants live under similar conditions, including the use of the same maize diet in both districts; yet those in the plains are free from pellagra, while the disease abounds in the hilly districts where simulia are abundant. There are also coloured plates of the recent cases in England and pictures showing that the places where these cases have been found are similar in character to those in other lands where the disease is endemic. Further, there is a tube containing simulium larvæ found at Catford.

We have by no means exhausted the contents of this museum, the organisation of which must have involved an immense amount of enthusiasm and hard work, but Mr. Wellcome deserves the thanks of the whole medical profession, not only for having collected all the objects which he has (and in this matter we must associate Mr. C. J. S. Thompson who has arranged them), but also for his intention of making the present museum the foundation of a permanent historical medical museum in London. The museum will close this year on Oct. 31st, but we are informed that it will be reopened as a permanent museum some time in 1914. During October the museum will be open from 10 A.M. to 6 P.M. daily, and from 10 A.M. to 1 P.M. on Saturdays.

THE INTERNATIONAL CONGRESS OF PHARMACY.

SINCE the Tenth International Congress of Pharmacy was held in Brussels in 1910,[1] a permanent International Pharmaceutical Federation has been established, with the result that the eleventh congress, which was organised by the Federation and held at the Hague during the third week in September this year, was the most successful of the whole series. It was truly representative in character, since it was attended by delegates of 18 different nationalities. The British representatives were Mr. Edmund White, President of the Pharmaceutical Society, who was the delegate of the British Government; Mr. W. J. U. Woolcock, secretary of the Pharmaceutical Society; Professor H. G. Greenish, joint editor of the British Pharmacopœia; Mr. E. S. Peck, and Mr. H. Finnemore. The delegate from the United States was Professor J. P. Remington, editor of the United States Pharmacopœia, while many other countries sent their most distinguished pharmaceutical professors. The President was Professor L. van Itallie of the University of Leyden.

Proposed International Pharmacopœial Bureau.—Unification of Nomenclature.

As is usually the case with international meetings the papers were very numerous, and time did not permit of the adequate discussion of the majority of them. The most important subject from the international point of view was the proposal to establish an international pharmacopœial bureau for the purpose of examining, abstracting, and sifting all literature relating to pharmacopœial work. As so many of the delegates are members of the revision committees of their national pharmacopœias the matter was discussed with much earnestness, and it was decided to appoint a commission of seven members to consider whether the formation of such a bureau is desirable, and to report to the federation; the British representative on the commission is Professor Greenish and the American Professor Remington. Should the bureau be formed not only would the work of revision committees be simplified, but each national pharmacopœia committee would profit by the experiences of all the others. It is, therefore, to be hoped that the commission will see its way to reporting favourably on the proposal. Another subject of discussion well suited to the purpose of an international meeting was that of the unification of pharmaceutical nomenclature. The general opinion was that a universal nomenclature was desirable, and it was left to the federation to consider the matter in detail. M. C. Rousseau, who brought the proposal forward, suggested that in pharmacopœias an international name should be printed in brackets after the national name, and that where Latin words were not employed the international name should be in Esperanto.

Trade Marks, Synthesis of Glucosides, &c.

The application of trade marks to chemical products used in medicine was the subject of another interesting discussion. The president of the Pharmaceutical Society, who made a valuable contribution to the discussion, suggested among other things that brand names should not be applied to substances which were not originated by the owners of the trade marks. The Congress passed a resolution embodying the recommendation that every medicinal substance bearing a trade mark name should also bear an ordinary name from the use of which the owner of the trade mark would suffer no loss of rights. A lecture on the Synthesis of Glucosides by means of Ferments by Professor Bourquelot of Paris was probably the most important feature of the Congress. Professor Bourquelot is the most eminent worker in this special field of research, and he and his collaborators have succeeded in synthesising many glucosides by means of enzymes. He gave a most interesting account of his work, and made, for the first time, the extremely important announcement that he had recently discovered that the action of enzymes is synthetic as well as analytical. Up to a point the action of a ferment is to break up a glucoside, but at this point the synthetic action begins. The decomposing process ceases when a certain proportion of the product of decomposition is present. Hitherto it has been supposed that the action of ferments is a decomposing one only, and this discovery opens up a new field of research. Professor Tschirch, of Berne, another distinguished research chemist, gave an address on the Importance of Enzymes in Pharmacognosy; he drew attention to the fact that parts of living plants change considerably after they have been removed from the plant, and showed that these changes are in some cases due to enzyme action and are preventable by the destruction of the enzyme. Whether or not the changes are beneficial depends upon the purpose for which the drug is intended, and in view of this consideration Professor Tschirch discussed the question of the advisability of sterilising fresh vegetable substances used in medicine. The value of the cinematograph in pharmaceutical lectures was demonstrated by Professor Wijsman, of Utrecht, whose paper on the Cultivation of Drugs in the Dutch Colonies was illustrated by moving pictures showing how cinchona bark is cultivated in Java. The next congress is to be held in Berne in 1915.

A GERMAN GIFT FOR THE PURCHASE OF RADIUM.—A Würtemberg manufacturer has given to the Ministry of Education the sum of 50,000 marks (£2500) for the purchase of radium and mesothorium.

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[1] THE LANCET, Sept. 17th, 1910, p. 909.

LOCAL GOVERNMENT BOARD FOR IRELAND:- ANNUAL REPORT FOR 1912-13.

THE forty-first annual report of the Irish Local Government Board has just reached us. It relates to the Board's proceedings during the year ending Lady Day, 1913, and contains evidence of satisfactory progress in sanitary administration in that division of the United Kingdom. From a medical standpoint it is important to note that sanitary operations in Ireland are regulated by a staff of medical inspectors, to each of whom is committed the charge of a definite area of the country. The reports of these officers form the source from which the present summary is derived. Particulars of the mortality from various causes in Ireland are cited from the report of the Registrar-General, to which reference has already been made in THE LANCET.[1] At the period covered by this report the provisions of the Infectious Diseases (Notification) Act had been adopted in 145 rural and 86 urban districts. In the first-named areas 3082 and in the last-named 6196 cases of infectious diseases were notified in the course of the year.

Typhus Fever.

Happily, this pestilence occurs rarely in England, and few of the rising generation of medical practitioners have ever seen a case. But in several parts of Ireland it seems to be practically endemic. In the year under notice 126 cases of typhus were notified in Ireland, but this number by no means represents the total incidence of the disease—partly because notification is not yet universally compulsory, but more especially because of the notorious fact that the initial cases of outbreaks frequently escape recognition. None of the outbreaks assumed alarming proportions last year, but a considerable number of attacks were reported from Galway and Dublin. Dr. Brian O'Brien gives an account of an epidemic visitation of typhus fever of an atypical character in the Stranorlar rural district, the origin of which was traced with much probability to infection conveyed in second-hand clothes. The Board refer with regret to the death of Mr. E. L. Aherin from typhus contracted in the course of his official duties in the Newcastle Dispensary district. In the county borough of Cork, where the disease has been of frequent occurrence in past years, only one case of typhus occurred in the period under review. Belfast also is stated to have been free from this fever.

Enteric Fever.

Throughout Ireland a gratifying reduction is reported in the incidence of enteric fever last year, when the number of notified cases was the lowest on record. Dr. T. J. Browne, the district medical inspector, reports that in Dublin the notifications were less than half as numerous as in the preceding year. Sir J. Acheson McCullagh, medical inspector for the Oughterard rural district, reports that enteric fever is more or less endemic in that locality. The water-supply is bad, mainly from wells, or rather holes in the field, and is liable to pollution in every form. The housing conditions also are insanitary. The fever in these cases was not of a pronounced type as regards the characteristics either of typhus or of enteric fever. "It was more of the 'mongrel type,' which is found so often on the western seaboard."

Tuberculosis.

Commenting on the circumstance that hitherto the notification of tuberculosis, under the Act of 1908, has been adopted in 41 districts only, the Local Government Board express the hope that before long steps will be taken to make notification compulsory, at any rate in all large urban districts. This is especially necessary as regards the boroughs of Cork and Waterford, where the incidence of phthisis is particularly heavy. In Dublin and in Belfast the notifications fall short of the recorded deaths from pulmonary tuberculosis; they cannot, therefore, be regarded as even an approximate index of the prevalence of the disease. In the interest alike of the patients themselves and of the community, the Board insist on the importance of securing notification of attacks before the disease has reached an advanced stage, and they impress upon sanitary authorities the necessity of acting on this principle.

The Board show considerable energy in supporting measures for the detection, prevention, and treatment of tuberculosis. Particulars are given of the progress already achieved, and of the advice and assistance rendered by the Board's expert advisers to local authorities who are responsible under the Tuberculosis Prevention Act.

The reports of the Board's medical inspectors contain accounts of their action in regard to the sanitation of their districts, together with statistics of diseases prevalent, and of the steps locally taken for its prevention. To these reports the attention of those interested in the health and well-being of Ireland may usefully be directed.

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[1] THE LANCET, Sept. 27th, 1913, p. 947.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Borough of Leicester.—The information given by Dr. C. K. Millard in his last report shows that the year 1912 was notable in various ways in the sanitary history of Leicester. The great Derwent Valley water undertaking was completed, and this source of supply was made available in September. The water is soft and organically pure, but has a brownish colour, due to its peaty origin, which at first was very pronounced. At present the new supply is being used in conjunction with the old service obtained from Charnwood Forest. During the year "sanatorium benefit" came into operation, and owing to the borough being already comparatively well equipped for the purpose, not only in respect of hospital accommodation but also by means of the tuberculosis dispensary which had been established in 1911, little difficulty was experienced in administering it. In order that the medical officer of health might act as administrative tuberculosis officer and medical adviser to the Insurance Committee a new arrangement was made by which the posts of medical officer and public analyst have been dissociated. Another noteworthy feature of the year was the virtual non-appearance of an autumnal diarrhœa epidemic. In past years these epidemics were a conspicuous feature of Leicester, which had the reputation of being a "diarrhœa town"; since the period 1898 to 1902, in which over 5000 pail closets were converted into water-closets, and other efforts made on a large scale to secure cleanly surroundings of dwellings, these annual outbreaks have been of much less intensity. The five years 1894-98 had an average diarrhœa mortality rate per 1000 births of 50·6; in the next five years 1899-1903 the rate was 39·7, for 1904-08 it was 34·5, and in the four years 1909-12 it has been as low as 18·7. In 1912 itself, a year meteorologically unfavourable to diarrhœa prevalence, the rate was only 6·5. The rate of infantile mortality from all causes has shown a corresponding decline, and it is noteworthy that this has taken place in a town which has not adopted the system of compulsory notification of births. It is possible that the objection to the latter measure may in part result from the high proportion of illegitimate births in Leicester; for 1912 such births were 5 1 per cent. of the whole. The municipal infants' milk depôt, unlike those in some other cities, has prospered. It is increasingly used, and is now said to be paying its way. Dried milk is exclusively used, the prices charged during the summer per pound being 1*s.* for full cream milk, 10*d* for "three-quarters cream," and 9*d.* for half cream. Reduced charges have been made in special cases, while the payments for the milk in some instances have been made by the Charity Organisation Society and by the Leicester guardians. The number of infants taken on the books, for longer or shorter periods, was 898 during the year. Infant consultations are held in connexion with the work of the depôt. About half the births in Leicester are computed to be attended by certified midwives, of whom there are 29. Dr. Millard does not consider the number to be inadequate. Some of the Leicester midwives are said to attend 150 or even more confinements a year. A small outbreak of enteric fever during August was traced to the consumption of a particular batch of ice cream, made on premises on which an ambulant case of the disease was at work. Appended to the report are a number of useful statistical tables relating to infectious diseases, hospital treatment, and other matters. We are glad to note that Leicester is taking part in the investigations of atmospheric pollution which are being made by the committee, of which Dr. W. N. Shaw, of the Meteorological Office, is chairman.[1]

County of Ross and Cromarty.—Dr. William Bruce gives an interesting report on the conditions which obtain in the scattered communities in this large area of the Highlands and in the Island of Lewis. He lays particular stress on the value of the school as a means of hygienic teaching, which he considers is not sufficiently utilised. He urges also, in the interests of growing children, that they should be allowed a respite from mental work as far as possible about the age of 12, and commends the old system of the children going to school in winter and being set free during the summer months, an arrangement to which, it is understood, the Scottish Education Department is not unfavourable. To make this plan successful, however, it would, of course, be necessary to extend the present age of compulsory attendance. The county possesses a sanatorium for early cases of tuberculosis, established by private munificence. The limited experience of notification of pulmonary tuberculosis suggests that about 200 cases will in future have to be dealt with in the whole county. Of these perhaps 100 will be cases on the mainland, and Dr. Bruce computes that here hospital accommodation would be required for at least 20. The bulk of the treatment of tuberculosis must be carried out at the homes, and for this purpose the prospect of the establishment of a satisfactory system of parish nursing, held out by the report of the recent Committee on the Medical Services of the Highlands and Islands, is greatly welcomed. The essence of sanitary improvement in many parts of this district lies in the solution of the housing problem, and Dr. Bruce urges that although the outlay of better houses may for the time being be unremunerative, it cannot fail to give ultimately an invaluable return. The Island of Lewis furnishes nearly 26,000 of the total inhabitants of the country who are estimated at 61,751, and special prominence is given to the report made on this area by Dr. D. Murray of Stornoway. In recent years a great deal of public attention has been given to the insanitary conditions of Lewis, but it is satisfactory to find evidence that considerable activity in sanitary work is now taking place. There is a considerable demand for new houses, while the objections to the "black houses" of the old type have been so much insisted upon that many of the islanders consider it useless to attempt any improvement of their older dwellings, and prefer to wait for new houses. The "black houses" in question are those in which the dwelling and the byre are under a single roof, with a vitiated atmosphere, and interiors that are damp, smoky, and sunless. Dr. Murray urges that those who are able to make a complete separation between the dwelling and the byre should at once be forced to do so. There is a hospital at Stornoway, but it is reported to be too far removed from many parts of the districts to be of much practical value. The record of the island for infectious diseases during the year appears to have been favourable; only three cases of enteric fever occurred, and an outbreak which followed importation of measles from the mainland was promptly checked. On previous occasions a very serious mortality from measles has resulted from its introduction in this way. The death-rate from all causes during the year was 13·56 per 1000 of the population, and the infantile mortality was distinctly low, not exceeding 49 per 1000 births.

The Island of Guernsey.—The population of this island is now estimated at 41,854, and in 1912 the natural increase of births over deaths was 431. Emigration is, however, actively going on, and Dr. Draper Bishop lays stress upon the fact that the emigrants are people of a desirable class and that it is a matter for regret that the prospects of life in newer countries cause them to leave Guernsey. On the other hand, immigration of aliens is also active, and it appears that they are not considered to be equally desirable persons. Dr. Bishop states that the immigrants are answerable for an altogether undue amount of crime and drunkenness, and that [illegible] rather than of British origin. The death-rate for 1912 was a low one 13·1 per 1000, as compared with 14·9, the average for the previous ten years. This circumstance in Guernsey, as on the mainland, is largely to be attributed to the cool and wet summer which favoured a low rate of infantile mortality. There was not a single death in 1912 from epidemic enteritis, which had caused 60 deaths in the previous year, and there were only two deaths from measles and none from whooping-cough, as compared with 18 and 11 respectively in the previous year. On the other hand, diphtheria seems to be considerably prevalent, 139 cases of this disease being included among the total of 270 cases of notifiable infectious diseases admitted to the King Edward Sanatorium during the year. As this sanatorium is only designed for the accommodation of 22 patients, its capacity has often been taxed to the limit, and at times it has been greatly overcrowded. In the parts of the island remote from the town Dr. Bishop considers that the belief in "witchcraft" and "overlooking" which still obtains has much to do with the spread of diphtheria. He also points out that the prevalence of infectious diseases generally is often maintained through the reluctance of the class termed "stranger poor" to make application to the proper authorities for medical relief. The system by which the poorer classes of the island can receive medical treatment, indeed, appears to be very deficient on account of the requirement that the patient, no matter where he lives, can only be attended by [illegible] steps appear to have been taken to deal with this disease beyond the routine disinfection of rooms which have been occupied by consumptive persons. Dr. Bishop rightly points to many of the natural advantages of the island from the public health point of view, such as its abundant sunshine and its tubercle-free milk, but he also indicates that there are serious deficiencies in its sanitary organisation which cannot fail to be detrimental both to residents and visitors. While he considers that it would be unadvisable to cumber the local statutes by the inclusion of the many Acts and Regulations at present in force in England, he points out that the powers of the Board of Health need to be expanded so as to form one working sanitary authority for the whole island. Such an authority should devote its first attention to the improvement of the water supply, the extension of the system of drainage in cc[illegible] and disposal of [illegible] sanitary dwellings for the working classes, and the medical inspection of the school children.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8475 births and 4936 deaths were registered during the week ended Saturday, Sept. 27th. The annual rate of mortality in these towns, which had been 13·8, 14·5, and 14·3 per 1000 in the three preceding weeks, slightly rose to 14·4 per 1000 in the week under notice. During the thirteen weeks of the quarter just ended the annual death-rate in these towns averaged 12·7, against 11·8 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·4 in Ilford, 6·5 in Hornsey, 6·7 in Gillingham, 7·3 in Willesden, and 7·9 in Carlisle, to 21·8 in Rochdale, 22·0 in Bury, 22·6 in South Shields, 23·6 in Stockport, and 24·0 in Sunderland.

The 4936 deaths from all causes were 38 in excess of the number in the previous week, and included 1081 which were referred to the principal epidemic diseases, against 1242 and 1118 in the two preceding weeks. Of these 1081 deaths, 927 resulted from infantile diarrhœal diseases, 49 from whooping-cough, 38 from diphtheria, 31 from measles, 19 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 3·2 against 3·6 and 3·3 per 1000 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 960, 1104, and 983 in the three preceding weeks, further declined to 927 last week; of this number 191 were recorded in London, 65 in Birmingham,

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[1] THE LANCET, Sept. 20th, 1913, p. 883.

54 in Liverpool, 36 in Manchester, 32 in Hull, 24 in Leeds, in Sheffield, and in Sunderland, 22 in West Ham, and 21 in Bradford. The deaths referred to whooping-cough, which had been 31, 38, and 44 in the three preceding weeks, further rose to 49 last week, and included 11 in London, 5 in Sheffield, 4 in Manchester, and 3 in Norwich. The fatal cases of measles, which had steadily declined from 77 to 20 in the nine preceding weeks, rose to 31 last week; 4 deaths occurred in London, in Oldham, and in Sheffield, 3 in Stoke-on-Trent, 3 in Dudley, 2 in Manchester, and 2 in Sunderland. The deaths attributed to diphtheria, which had been 45, 36, and 40 in the three preceding weeks, declined to 38 last week, and included 7 in London, 3 in Leeds, and 2 each in Bristol, in Birmingham, and in Birkenhead. The deaths referred to scarlet fever, which had been 17, 28, and 18 in the three preceding weeks, were 19 last week, of which number 5 were registered in Birmingham, 3 in Manchester, 3 in Sheffield, and 2 in London. The fatal cases of enteric fever, which had been 13, 10, and 13 in the three preceding weeks, rose to 17 last week, and included 4 in London, 2 in Manchester, and 2 in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2112, 2211, and 2355 at the end of the three preceding weeks, had further risen to 2570 on Saturday last; 508 new cases were admitted during the week, against 298, 346, and 473 in the three preceding weeks. These hospitals also contained on Saturday last 913 cases of diphtheria, 198 of whooping-cough, 79 of measles, and 57 of enteric fever, but not one of small-pox. The 1167 deaths from all causes in London were 20 fewer than the number in the previous week, and were equal to an annual death-rate of 13·5 per 1000. The deaths referred to diseases of the respiratory system, which had been 132, 132, and 125 in the three preceding weeks, rose to 134 last week, but were 35 below the number in the corresponding week of last year.

Of the 4936 deaths from all causes in the 96 towns, 157 resulted from various forms of violence and 331 were the subject of coroners' inquests. The causes of 30, or 0·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, West Ham, Bradford, Hull, Newcastle-on-Tyne, and in 72 other smaller towns. Of the 30 uncertified causes of death, 5 were registered in Birmingham, 4 in Liverpool, 3 in Stoke-on-Trent, 3 in Sunderland, and 2 each in Bury, in Burnley, and in Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1075 births and 653 deaths were registered during the week ended Saturday, Sept. 27th. The annual rate of mortality in these towns, which had been 16·7, 16·4, and 14·4 per 1000 in the three preceding weeks, rose to 15·1 per 1000 in the week under notice. During the thirteen weeks of the quarter just ended the mean annual death-rate in these towns averaged 14·3, against a corresponding rate of 12·7 per 1000 in the 96 large English towns. Among the several towns the death-rate last week ranged from 7·2 in Coatbridge, 8·5 in Clydebank, and 9·7 in Paisley, to 19·5 in Dundee, 19·9 in Ayr, and 20·3 in Hamilton.

The 653 deaths from all causes were 28 in excess of the number in the previous week, and included 90 which were referred to the principal epidemic diseases, against 126 and 94 in the two preceding weeks. Of these 90 deaths, 55 resulted from infantile diarrhœal diseases, 10 from measles, 10 from diphtheria, 6 from whooping-cough, 5 from scarlet fever, and 4 from enteric fever, but not one from small-pox. These 90 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·1, against 3·2 per 1000 in the 96 large English towns. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 89, 96, and 62 in the three preceding weeks, further declined to 55 last week, and included 25 in Glasgow, 9 in Dundee, 5 in Paisley, and 3 in Aberdeen. The deaths referred to measles, which had been 14, 12, and 9 in the three preceding weeks, were 10 last week, and comprised 7 in Glasgow, 2 in Hamilton, and 1 in Leith. The fatal cases of diphtheria, which had been 6, 7, and 8 in the three preceding weeks, further rose to 10 last week, of which 4 occurred in Glasgow and 2 in Aberdeen. The deaths attributed to whooping-cough, which had been 6, 5, and 9 in the three preceding weeks, fell to 6 last week, and included 4 in Glasgow. The 5 deaths referred to scarlet fever, of which 3 were recorded in Glasgow, were equal to the average in the five preceding weeks. The 4 fatal cases of enteric fever, comprising 2 in Perth, 1 in Glasgow, and 1 in Falkirk, were slightly above the average in the earlier weeks of the quarter.

The deaths referred to diseases of the respiratory system, which had been 86, 65, and 63 in the three preceding weeks, slightly rose to 66 in the week under notice; 26 deaths resulted from various forms of violence, against 25 and 17 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 665 births and 483 deaths were registered during the week ended Saturday, Sept. 27th. The annual rate of mortality in these towns, which had been 19·9, 21·1, and 19·8 per 1000 in the three preceding weeks, rose to 21·0 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Irish towns averaged 18·2 per 1000; in the 96 large English towns the corresponding rate did not exceed 12·7, while in the 16 Scotch towns it was equal to 14·3 per 1000. The annual death-rate last week was equal to 21·2 in Dublin (against 13·5 in London and 16·2 in Glasgow), 19·5 in Belfast, 24·5 in Cork, 22·9 in Londonderry, 17·6 in Limerick, and 26·6 in Waterford, while in the 21 remaining smaller towns the mean death-rate was equal to 21·6 per 1000.

The 483 deaths from all causes were 28 in excess of the number in the previous week, and included 103 which were referred to the principal epidemic diseases, against 132 and 120 in the two preceding weeks. Of these 103 deaths, 84 resulted from infantile diarrhœal diseases, 9 from whooping-cough, 5 from measles, 3 from scarlet fever, 1 from enteric fever, and 1 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 4·5 per 1000; in the 96 large English towns the corresponding rate was 3·2, while in the 16 Scotch towns it did not exceed 2·1 per 1000. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 92, 111, and 98 in the three preceding weeks, further declined to 84 last week, and included 33 in Dublin, 22 in Belfast, 8 in Cork, 5 in Londonderry, 3 in Waterford, and 3 in Dundalk. The deaths referred to whooping-cough, which had been 6, 6, and 2 in the three preceding weeks, rose to 9 last week, all of which occurred in Galway. The fatal cases of measles, which had been 10, 2, and 7 in the three preceding weeks, were 5 last week, and comprised 4 in Galway and 1 in Waterford. The 3 deaths attributed to scarlet fever and the fatal cases of enteric fever and diphtheria were all recorded in Belfast.

The deaths referred to diseases of the respiratory system, which had been 42, 41, and 56 in the three preceding weeks, rose to 60 in the week under notice. Of the 483 deaths from all causes, 128, or 27 per cent., occurred in public institutions, and 9 resulted from various forms of violence. The causes of 6, or 1·2 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·6 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: E. D. J. O'Malley to the *Temeraire* on recommissioning; W. K. Hopkins to the *Vivid*, additional, for the *Fearless*, and on commissioning; J. H. Stenhouse to Bermuda Hospital and Dockyard; W. A. Whitelegge to the *Queen*; F. Fedarb to the *Hibernia*; F. Bradshaw to the *Princess Royal*; E H. Hodnet de Courtmacsherry to Chatham Dockyard; and E. G. E. O'Leary to the *Indefatigable*.

Staff-Surgeons: M. Cameron to the *President*, additional. for Queensferry Sick Quarters, temporarily; and H. J. Chater and J. MacDonald to the *Calypso* and the *Adventure* respectively. Surgeons: O. H. Symons to Malta Hospital and J. G. Boal to the *Temeraire*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Captain Douglas P. Watson is seconded for service under the Colonial Office (*dated Sept. 10th, 1913*).

Lieutenant-Colonel H. M. Adamson has been placed under orders for a tour of service in India, embarking from Southampton on Oct. 22nd, and on arrival will be appointed to the Southern Army. Lieutenant-Colonel T. B. Winter has taken up duty as officiating Assistant-Director of Medical Services to the Colchester District during the absence on special duty of Colonel F. J Jencken. Approval has been given by the Director-General for an exchange on the roster for service abroad between Brevet-Colonel and Lieutenant-Colonel C. H. Melville, in charge of the Military Hospital at Lucknow Cantonment, and Lieutenant-Colonel J. M. F. Shine, in charge of the Military Hospital at Belfast. Lieutenant-Colonel C. C. Reilly has been transferred from the Military Hospital at Colaba, Bombay, to the Presidency Brigade and appointed to hold charge of the Military Hospital at Darjeeling Cantonment. Lieutenant-Colonel H. D. Rowan has been appointed to hold charge of King George V. Military Hospital at Dublin in succession to Lieutenant-Colonel W. C. Beevor, C.M.G. Lieutenant-Colonel H. J. Pocock has been transferred from the Military Hospital at Campbellpore to Murree Cantonment. Lieutenant-Colonel R. J. W. Mawhinny has taken up duty as Senior Medical Officer at Jullunder Cantonment. Lieutenant-Colonel W. T. Mould has been appointed to hold charge of the Military Hospital at Fyzabad Cantonment.

Major P. H. Collingwood has been transferred from medical charge at Honiton Camp to the Military Hospital at Devonport. Major W. S. Crosthwait has taken over charge of the Military Hospital at Upper Topa, Murree Hills District, on transfer from Ambala Cantonment. Major F. Harvey has been placed under orders to embark for a tour of service in India on Oct. 9th, and on arrival will be appointed to the Southern Army. Major B. F. Wingate has taken over charge of the Military Hospital at Bellary Cantonment, Madras Presidency. Major J. H. Brunskill has been transferred from the Military Hospital at the Curragh Camp to the Dublin District, and appointed Specialist Sanitary Officer in succession to Major D. J. Collins, who has embarked for a tour of service in India. Major H. K. Palmer has been appointed to officiate in medical charge of 18th Regiment of Native Infantry, Indian Army, at Aden. Major J. G. Gill has joined for duty at Maymyo. Major E. F. Q. L'Estrange has taken over charge of the Military Hospital at Cannanore Cantonment. Major F. W. Begbie has been appointed Specialist in Operative Surgery to the Fifth (Mhow) Division of the Southern Army in India. Major H. O. B. Browne-Mason has been appointed to officiate as Deputy Assistant Director of Medical Services to the Sixth (Poona) Division. Major A. W. N. Bowen has taken over charge of the Military Hospital at Kirkee Cantonment.

Captain J. W. S. Seccombe has been transferred from the Royal Army Medical Corps Camp of Instruction at Tidworth Park, Salisbury Plain, to the Military Hospital at Topsham. Captain J. B. Meldon has taken up duty at Eastbourne on transfer from the Military Hospital at Shorncliffe. Captain G. W. G. Hughes has been appointed to the Military Hospital at Devonport on conclusion of the course of instruction for promotion to the rank of major at the Royal Army Medical College, Grosvenor-road, S.W. Captain P. J. Hanafin has been transferred from King George V. Military Hospital, Dublin, and appointed to hold medical charge at Rogerstown Camp. Captain N. Low has been selected for appointment as Specialist in State Medicine at the recent promotion examination held at the Royal Army Medical College. Captain H. W. Russell has been placed under orders to embark at Southampton on Oct 9th for a tour of service in India, and on arrival will be appointed to the Northern Army for duty. Captain C. P. O'Brien-Butler has been granted one month's extension of general leave of absence home from India. Captain J. C. Sproule has been transferred from the Military Hospital at Devonport to Crown Hill. Captain M. J. Cromie has joined at Chatham. Captain R. H. L. Cordner has been appointed Specialist in Physical Training. Captain J. E. M. Boyd has been allowed to extend his Indian tour of service for one year. Captain M. Keane has joined at Warwick. Captain J. H. Foster has been granted general leave of absence home from India until Feb. 3rd next, with permission to revert to the Home establishment at its expiration. Captain C. J. Coppinger has been selected for appointment as Specialist in Bacteriology. Captain J. G. Bell has been placed under orders to proceed to the Straits Settlements for a tour of service. Captain J. W. Lane has been granted six and a half months' general leave of absence home from the Indian establishment. Captain J. E. Hoar has been appointed Specialist in Dermatology and Venereal Diseases. Captain R. E. U. Newman has been transferred from the Military Hospital at Chatham and appointed to hold medical charge at Landguard Fort. Captain J. W. L. Scott has been appointed to the staff at the Royal Victoria Hospital, Netley, on transfer from Durrington Camp, Salisbury Plain. Captain V. H. Symons has joined for duty at Seaforth. Captain G. E. Ferguson has been selected for appointment as Specialist. Captain P. Power has embarked for a tour of service with the Southern Army in India. Captain C. T. Edmunds has been transferred from the Military Hospital at Bulford Camp, Salisbury Plain, to Sonning-on-Thames. Captain J. A. Renshaw has taken up duty at the Military Hospital, Secunderabad Cantonment, on transfer from the Bangalore Brigade of the Southern Army. Captain R. A. Bryden has been appointed to the Military Hospital at Preston.

Lieutenant C. J. H. Little has been appointed to the Northern Command for duty. Orders have been issued for Lieutenant H. R. L'Estrange, attached to the Military Hospital at Newbridge, to be held in readiness to embark for service in Mauritius on Nov. 1st next. Lieutenant J. B. A. Wigmore has been appointed to the Aldershot Command for duty. Lieutenant E. B. Allnutt has been placed under orders to embark from Southampton for a tour of duty in India on Oct. 9th, and on arrival will be appointed to the Southern Army. Lieutenant N. W. Stevens has been transferred from Shorncliffe to the Military Hospital at Dover. Lieutenant E. P. A. Smith has taken up duty in the Aldershot Command. Lieutenant R. B. Phillips has been transferred from the Military Hospital at Cork and appointed to hold medical charge at Ballcannon Camp. Lieutenant E. A. Strachan has joined at Barry. Lieutenant C. C. Jones has been appointed to the London District. Lieutenant H. Beddingfield has joined the Eastern Command for a tour of duty. Lieutenant W. J. Webster has been placed under orders to embark for a tour of service at Malta. Lieutenant G. H. Dive has joined at Pekin. Lieutenant A. A. M. Davies has been appointed to the Northern Command. Lieutenant T. J. Hallinan has been transferred from the Military Hospital at Lucknow Cantonment to the Presidency Brigade and appointed to the Military Hospital at Fort William, Calcutta. Lieutenant L. Dunbar has been appointed to the Southern Command.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel J. Davison, D.S.O., has arrived home on leave of absence from India. Lieutenant-Colonel W. R. Edwards, C.M.G., has been selected for appointment as Agency Surgeon of [illegible] the Foreign Department of the Govern [illegible] ment from the servi [illegible] Lieutenant-Colonel C. H. James, C.I.E., has been confirmed in the appointment of Civil Surgeon at Simla (West).

Major R. F. Baird, civil surgeon to the Gonda District, has been transferred to Benares. Major J. Husband has been selected for appointment to hold civil medical charge at Dera Ismail Khan. Major H. M. Mackenzie has been granted leave of absence home from India, combined with furlough, for one year and seven months. The services of Major W. H. Kenrick have been placed at the disposal of the Sanitary Commissioner of the Central Provinces for employment on Malaria Survey duty. Major D. McCay, professor of physiology at the Government Medical College, Calcutta, has been appointed Second Physician to the College Hospital, Calcutta, during the absence on special duty of Lieutenant-Colonel B. H. Deare. Major G. Hutcheson, civil surgeon at Aligarh, has been granted leave of absence home from India for one year and eight months. Major F. W. Sumner, on completion of special duty at the Central

Research Institute, Kasauli Cantonment, has been appointed to hold civil medical charge at Farrukhabad.

Captain M. J. Quirke has been appointed permanently to the Civil Medical Department of the Government of Madras Presidency. Captain R. H. Bott has been appointed to officiate as Professor of Surgery at the Government Medical College, Lahore, during the absence on leave of Lieutenant-Colonel E. V. Hugo. Captain P. S. Mills has arrived home on leave of absence from India. The services of Captain C. H. Reinhold have been placed at the disposal of the Government of the United Provinces of Agra and Oudh for officiating civil medical employment. Captain M. R. C. MacWatters, officiating civil surgeon, on completion of special duty, has been appointed to officiate as Chemical Examiner, Government Analyst, and Bacteriologist to the United Provinces of Agra and Oudh and to the Central Provinces Administration, in succession to Captain V. B. Nesfield. Captain H. H. Thorburn, agency surgeon to the Foreign Department of the Government of India, has been granted privilege leave of absence for two and a half months. Captain J. F. Crawley has embarked on medical charge of troops on board the transport s.s. *Barjora* for the Persian Gulf. Captain H. P. Cook has been transferred from the Foreign Department of the Government of India for duty under the Education Department. Captain H. Broome has been granted an extension of his leave of absence home from India. The services of Captain L. Hirsch have been placed permanently at the disposal of the Government of Madras for civil medical employment.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Henry Colwell Rook, late Cadet Staff Sergeant, University of London Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated Sept. 4th, 1913).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd Highland Field Ambulance, Royal Army Medical Corps: Captain John Innes resigns his commission (dated Sept. 27th, 1913).

Attached to Units other than Medical Units.—Charles Ernest Anderson to be Lieutenant (dated July 2nd, 1913).

DEATHS IN THE SERVICES.

Surgeon-Major David Woods, late A.M.S., at Camberley, in his 84th year. He formerly served as a surgeon in the Royal Artillery.

THE MEDICAL DEPARTMENT OF THE RUSSIAN ARMY.

The medical service of the Russian Army has made a great advance. In 1912 hospital commandants were abolished and the senior medical officer was made responsible for the whole of the management of his hospital. There was a mutiny in the Imperial Medical Academy in March, says the *Journal of the Royal United Service Institution*, but the school has been reorganised, and the students are now under military discipline. Of students there are 850, of whom 523 receive their education free. In the field there are four hospital beds with each battalion, and the battalion provides the first dressing station in action, the collecting station is equipped by the brigade or divisional hospital, which hands the sick and wounded over to the ambulance companies for conveyance to the base. The new ambulance cart is two-wheeled with springs and a hood, holding two stretchers and seats besides. It weighs 560 lb. empty, half-a-ton when loaded, and is drawn by a single led horse. A special class of reservists is designated for service in the Red Cross Society's hospitals.

BULLETIN OF THE NAVAL MEDICAL ASSOCIATION OF JAPAN.

The May issue of this well illustrated publication, for the most part printed in the Japanese character, contains a summary in English of its contents, which includes three cases of lymphatic leukæmia; a rare sequela of gastro-enterostomy; and on solitary tuberculosis of the iris and its treatment. In a paper on the von Pirquet's and Calmette's reaction and some clinical observations on tuberculosis the author, Staff-Surgeon R. Takamiya, referring to a report that a large number of tubercular patients have decayed teeth owing to waste of calcium, says that 101 out of 135 patients with this disease observed by him had decayed teeth.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 955.)

XXII. (*continued*).—HULL: UNSOLVED DIFFICULTIES.

AT Hull, as in so many other places, the general impression is that "a better fight will be put up next time, for the profession has learnt a lesson." Thus is defeat acknowledged, the necessity of union and discipline proclaimed, and the belief expressed that other contests are likely to occur at no very distant date. When I inquired what was the nearest danger in sight, the general opinion was that a dispute would surely arise if the insurance fund is made to pay for medical attendance for insured persons who are temporarily absent from their own area. At Hull the Medical Committee has passed a resolution refusing to consent to, and protesting against, any deduction being made from the insurance fund so as to form a central fund for such a purpose. Nor will the Medical Committee hear any mention of what is called case values. These vary far too much, and some might represent large sums. It is maintained that there is no power to enforce reductions of the amount the panel doctor is to receive, because some of the insured persons on his list go off in different directions for their holidays. If they can afford holidays, it was said, they can afford to pay the usual fees to the local practitioners at their holiday resorts. None of these plans, nor any other plan to make deductions from the 7*s*. for this purpose, it is thought, could be enforced by law. In any case, this is one of the questions about which it may be necessary to "put up a good fight." Then there are a number of small questions that must be decided in one way or another and over which disputes may well arise. Thus, if a midwife sends an emergency call to a medical man in a maternity case, however complicated the accouchement may prove, he cannot charge more than 15*s*. Last March protests were made, but the Insurance Committee insisted that not more than 15*s*. could be allowed, even if it happened that two or three medical men had been called to one patient. Then even this small fee has to be claimed within 24 hours. In many cases the lowest amount that could be considered adequate remuneration was 2 guineas, for when such emergency cases occur it means that the medical attendant may have to make many calls after the child is born, and the 15*s*. never suffices for these subsequent visits. Therefore, the question arises whether the receiving of 15*s* from the maternity benefit debars the medical attendant from claiming the rest of his account from the mother. Many medical men know nothing about the regulations, therefore they fail to send in their account within the 24 hours, and thus lose the 15*s*. No regulations had ever been sent to them. The Commissioners have been applied to in regard to these matters and some measures must be taken, for it is quite certain that exceptionally difficult maternity cases cannot be undertaken for a fee of only 15*s*.

Socialist Practitioners and the Act.

In regard to the Act itself, the profession at Hull were absolutely united on the economic basis of resistance to the proposed 4*s*. 6*d*. But when this offer was raised to 8*s*. 6*d* the opposition weakened. Such as it was, it concentrated in the hands of the British Medical Association, and some practitioners who had left the Association because further struggle seemed useless rejoined it in the idea that it was about to become a fighting trades union. When, however, the larger sum was offered, several practitioners began to favour the Act, and the fact that they were strong Liberals, in some cases, suggested that party politics were now playing a part. But, on the whole, politics did not interfere with their loyalty to the majority of the British Medical Association division, which includes the East Riding of Yorkshire. Two well-known general practitioners at Hull are active Socialists, and it was interesting to note their attitude. They were opposed to the Act, considering that it must tend to weaken trades unions. They object to it because the Act interferes with the power of the trades unions to borrow, on behalf of their strike funds, money subscribed for their benefit funds. Then they regard the Act as reducing the status of the medical practitioner; it interferes with his freedom, makes a sort of servant of him, and yet does not give him the status of being a State servant. The panel doctor is tied down to stated hours, a semi-State service having been instituted with all the disadvantages and none of the advantages of a genuine State service. Even in the time of year when, as an independent practitioner, it was possible to make arrangements and absent himself occasionally, the panel doctor is to-day obliged to remain at his post, though there is little or nothing for him to do. In its dealing with the people they consider that the Act tends rather in the direction of giving doles to the poor instead of raising the worker by teaching and encouraging him to organise. The insured workers are separated by the Act from the rest of the community. They are labelled and docketed. To the Socialist practitioners the Act appears as a disintegrating measure which, in practice, will tend to weaken the force of those labour organisations, especially the trades unions, that are best able to defend the cause of the workers.

How the Profession Accepted the Act at Hull.

Up to December, 1912, the profession at Hull were quite united in opposing the Act, but at the end of the year when at a meeting a vote was put there were 38 practitioners who voted for and 83 against the Act. Thus it was evident that quite a large minority had been won over and favoured the measure. There were signs of weakening in all parts of the country, particularly as the importation of whole-time men appeared to be more practicable than had been believed possible. Many practitioners who felt they would certainly lose nearly all their practice began to waver, and the remnants of resistance entirely disappeared when, at Christmas, the misunderstanding arose concerning the proposition to negotiate directly with the Friendly Societies. Everyone felt most keenly in regard to the emancipation of the profession from the control of the Friendly Societies and medical aid clubs. No one understood that it had not been proposed to negotiate with the Friendly Societies, but only to entrust them with the collection of subscriptions, while everyone in Hull remembered well what had been meant by subservience to the Friendly Societies.

An amusing episode now occurred. It having been ascertained by the vote recorded above that there were 38 practitioners in favour of the Act, an attempt was made to gather them together, but no one knew all their addresses. Therefore, an advertisement was inserted in the papers; but the printer removed a comma, so that it appeared as if all the members of the profession were invited to the meeting instead of only those who were in favour of the Act. The resulting discussion, as may be imagined, was at first somewhat heated, but eventually those present had a quiet talk, which ended harmoniously by those against the Act passing a vote of thanks to those in favour of the Act for having convoked the meeting. The supporters of the Act pointed out that before the local division of the British Medical Association had decided to oppose it they had passed by a large majority a resolution that "this division would not refuse to work the Act." Thus, instead of refusing, they then left the matter open. By the time other meetings were held the feeling of antagonism to the Act had developed and continued till the end of 1912, but then the decision to fight the Act was reversed. A big majority are now thoroughly in favour of the Act and hope that the terms will be made better step by step as opportunity arises. For instance, the question of mileage round and about Hull has to be settled, for some practitioners have suffered considerable loss through long-distance visits. Still, when in April, 1913, after three months' trial, the question was raised whether the Hull medical men would continue working the Act, not a hand was held up against it.

Need of Meetings and Discussion.

Though the main issue is thus settled, there should, nevertheless, be frequent meetings of the profession. Some months of experience have been acquired concerning the working of the Act, and its difficulties and remaining defects could now be discussed with advantage. Amendments and improvements are still needed, and something must be done to give articulate expression to what is desirable and desired. This is all the more easy, as, after making several inquiries, I think it may be said that there does not remain in the ranks of the local profession any resentment or bitterness of feeling. Correspondence in the lay papers shows that such feeling is not dead everywhere—and I am not wholly surprised that this should be the case—but Hull is spared the troubles of abiding rancour. Though some practitioners have suffered a little by losing patients, the great majority are at present enjoying an increase of income, and this tends towards friendliness. But one grievance which I have noticed in so many towns occurs at Hull as elsewhere. There are many sons and grandsons of wealthy persons who, because they are employed, are insured and claim medical attendance at the contract rate where formerly they paid, and could well afford to pay, full fees.

The Poorest Panel Practice.

A great deal remains to be done to endeavour to equalise the conditions of panel work. Thus, at Hull, I was informed that a practitioner has on his list about 800 picked lives belonging to a very decent class. As a result, there is so little illness among them that, dividing the 800 annual 7*s.* by the number of consultations given, he received 3*s.* 6*d.* per consultation. On the other hand, another practitioner has 1600 to 1700 insured persons on his list. They are not, however, specially selected, but, on the contrary, belong to the worst class, and he calculates that he only obtains 1*s.* 6*d.* per consultation or item. If the system of payment was according to the work done, the poorer the class of insured persons the larger might be the income. Thus the contract system may provide proportionally the largest incomes to those who *do the least work*. This anomaly prevails all over the country. Then—and this concerns more especially very poor practice—there is the altered attitude observed at the hospitals or infirmaries. In many such establishments help is refused to those who can be treated by a panel doctor. Very few medical cases are taken at Hull unless they are admitted as indoor patients; small wounds may be dressed for the first time at the hospital, but after this first care the injured person is told to go to his panel doctor. The result is that, in the poor practice mentioned above, there are a large number of insured persons, notably dock labourers, who need treatment for minor injuries, such as cut hands, sprained ankles, &c., stitches have to be removed, and new dressings put on. There is no difficulty in such work, but it takes a great deal of time. There are not many panel doctors who can afford the services of a nurse; and then, instead of merely writing out a prescription, it is necessary to get hot water, a basin, bandages, antiseptics, &c.; thus a good 15 minutes may well be spent over the dressing of some small injury, especially if this is done in an inadequately equipped surgery with no nurse to help. Previously to the Act, in the days of club practice, all such patients went to the nearest hospital. But there are also some more serious cases that come to the panel doctor. Thus the practitioner, with the large panel practice I have mentioned, had on his list of injured persons two cases of broken legs and a fractured collar-bone. For the latter he had given, out of his own pocket, 10*s.* 6*d.* to get a suitable strap and buckle arrangement. Of course, he was not obliged to spend this money, but it would have been difficult otherwise to treat this particular patient. Then there were two men who had fractured ankles. Few such cases came as club patients before the passage of the Insurance Act. It is just this difference, not between one practice and another, but between the different panel practices, that will need better adjustment. In all the great and poor panel practices there are many slum dwellers, dock labourers, factory girls, casual labourers —underpaid, half-starved, badly housed men and women. The majority of these people do not think either of what is being done for them or of what used to be done. They grumble because they have to pay their share of the insurance money, yet the Act is proving to be of great medical advantage to them. Among this very poor section of the community there are not many who used to belong to Friendly Societies or medical aid clubs. Therefore, for the first time in their lives, they are paying for medical attendance. When to what they themselves give are added the employers' and the State's contributions, it will be seen that some medical men are receiving payment to-day from sections of the community which formerly were attended for nothing or went to charitable institutions. As often as not, these people had no medical attendance at all, whereas now they are receiving competent advice and treatment.

This, in time, must bring about a considerable improvement in the condition of the lowest and the poorest.

Wages and the Act.

At Hull, as elsewhere, there is of course the problem of malingering, and the desire for the establishment of a medical referee was expressed in several quarters. The panel doctor has not the time to play the part of a detective, especially if he has a large list and his waiting-room is crowded with impatient sufferers. The man with the pain in the back who says he cannot stoop or carry would have to be stripped and examined and put through a great variety of tests before it could be ascertained whether he was malingering or not. It stands to reason that sometimes, if the practitioner is over-worked, his story being probable, is believed without much testing. The greatest difficulty is with women and girls, because their wages are so low. For instance, I came across a charwoman who never earns more than 1*s.* 6*d.* a day and a little food, but as she is not employed every day her income hardly exceeds the 7*s.* 6*d.* a week she would receive as sick allowance under the Act. It often happens with badly paid women and girls that life is more enjoyable on their sick allowance with nothing to do than when working hard to earn about the same sum. Then, as these unfortunate women are very susceptible to illness as a natural consequence of the hard lives they lead, it requires very little malingering, a mere exaggeration of symptoms, to get on the sick-list. Thus better wages become an essential condition to the successful working of the Act. Also, it must be borne in mind that the general standard of health will decrease as less robust persons come into the scope of the Act, so that there will be more to do, and yet there is to be no increase in the payment. The profession is insisting on adequate terms for dependents, so that there should be a good precedent to work upon should an attempt be made to bring them into an enlarged insurance scheme. To-day the profession is undoubtedly receiving more money than was the case before the Act, but will this continue if other sections of the community are also forced to insure?

(To be continued.)

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Housing Acts in Scotland.

SOME valuable hints on the provision of houses by local authorities have been published by the Local Government Board of Scotland. They have not been formally issued to the local authorities, but can be obtained from the Board on application. It is pointed out that either common lodging-houses or separate dwellings (including cottages and gardens) may be provided within or without the district of the local authority, and that there is no statutory restriction upon the class of house that may be erected, provided that it is for habitation by the working classes. But a local authority should first satisfy themselves that there is an unsatisfied demand for working-class houses, and that such are not likely to be provided by private enterprise, and should also consider whether they can do anything to stimulate private enterprise by drawing attention to the scarcity of houses, by feuing municipal land at a cheap rate, or by developing this land by forming roads and laying sewers and gas and water mains in advance. No selected site should be purchased until the Board's consent has been obtained to borrowing, and urban or built up sites should be avoided on the score of expense. Discretion is given to a local authority to acquire land either by agreement or by compulsory powers under Section 2 of the 1909 Act. In the preparation of plans a careful regard should be had to local conditions and to the requirements and means of the prospective tenants, while studied attention should be given to the "Memorandum of the Local Government Board on the Provision and Arrangement of Houses for the Working Classes." It is recommended that sketch plans should be submitted informally to the Board's architectural inspector before they are finally adopted by the local authority. The consent of the Board is required to loans for building purposes, and the maximum periods of repayment advised by the Board are (1) 60 years for houses (with shorter terms for roads, drains, fences, &c.) and (2) 80 years for land. Either the annuity or instalment system of repayment may be adopted. If feasible, housing schemes should be on a self-supporting basis, though the Board do not make this a condition of their consent to borrowing.

Glasgow Parish Council and the Treatment of Phthisis.

For some years there has been a considerable diversity of opinion in Glasgow as to the relative responsibility of the parish council and the corporation in the matter of dealing with patients suffering from tuberculosis of the lungs. At a conference held in 1906 the corporation and the parish council were agreed that phthisis should be included as a notifiable disease under the Public Health Act, but little was done until the year 1908. At that time the Local Government Board drew attention to the respective obligations of local authorities and parish councils, and indicated that the local authority should bear the whole expense, even if, until other arrangements were made, the parish council hospitals were utilised. In 1909 the corporation adopted the principle of compulsory notification, but since then they have done little to carry out their responsibilities. The parish council some time ago proposed to take a test case to the Court of Session, but this was deprecated by the Local Government Board, and further efforts were made to get the corporation to assume the burden of costs. At the present time there are over 400 patients suffering from phthisis in the institutions of the parish council, costing about £30 per year each, equivalent to an annual expenditure of £12,000. All this has to be borne by Glasgow ratepayers, whereas if the corporation or public health authority paid this annual cost the sum of £6000 would be saved to the city, because under the new tuberculosis maintenance grant one-half of the expenditure by the local authority on tuberculosis would be repaid out of Government funds. On the other hand, as things exist at present, no contribution is made to parochial authorities. The parish council naturally feel that money is being lost in this way to the city ratepayers, and they are making another effort to force the local authority to take up the question. The corporation also have apparently decided that the time has come for them to move in the matter, and it is a step in the right direction that was taken when last week the health committee of the corporation recommended the purchase by the corporation of Bellefield Sanatorium. This sanatorium was opened in 1904, and conducted by the Glasgow and District Branch of the National Association for the Prevention of Consumption. The sanatorium, situated in Lanarkshire, provides accommodation for 52 patients. The suggested purchase price is £7500 to £10,000 for the sanatorium with all fittings as it stands, and to this suggested agreement certain conditions are to be attached by the corporation as to the money being used directly or indirectly by the association in behalf of persons residing in the city of Glasgow suffering from tuberculosis. At the present time also an extension is being made by the corporation to Ruchill Fever Hospital for the treatment of phthisical patients, and it has been arranged that the small-pox hospital at Robroyston, when occasion permits, shall be used for the same purpose.

Memorial Portrait to a Dundee Practitioner.

On Sept. 24th a memorial portrait to the late Dr. George Lawrence, who died last year, was unveiled at the Dundee Art Gallery. The portrait has been painted by Mr. W. B. Lamond, and bears the following inscription:—

> George Lawrence, M.B., C.M. Born 1871; died 1912. Presented to Dundee Permanent Collection by grateful patients and friends to mark their appreciation of valuable services to the community. September, 1913.

Sept. 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Belfast during 1912.

THE report of the medical officer of health of Belfast for the year 1912 is fuller, more complete, and more satisfactory than any of its predecessors. The statistics in the report are based on a population of 391,974, as estimated by the Registrar-General in the middle of the year. In 1912 the birth-rate was 27·8 per 1000, being 0·6 less than in 1911, and it was, as might be expected, highest among the inhabitants of working-class districts, and lowest among those resident in the better class areas. The death-rate per

1000 was 18 1, which is 0 9 higher than in 1911, but 1 5 lower than the average rate for 1902-11 Of the total deaths (7111) there were 1408 in children under 1 year of age from all causes Respiratory diseases, including pneumonia and pulmonary tuberculosis, caused 2592 deaths—i e, 802 from pulmonary tuberculosis, 799 from pneumonia, and 991 from other diseases of the respiratory system 338 [illegible] berculosis other than pulmonary, [illegible] m whooping cough, 171 from [illegible] diseases, 48 from scarlet fever, 37 from diphtheria, and 17 from typhoid fever If, as Dr Arthur Newsholme teaches, "infant mortality is the most sensitive index we possess of social welfare and of sanitary administration, especially under urban conditions," then the rate in Belfast—129 per 1000 births in 1912—demands some consideration Mr H W Bailie, the medical superintendent officer of health, *seems to hit the great cause* when, on p 54 of his report, he says "There can be no doubt that the removal of all insanitary conditions improves public health generally, but more particularly that among infants, by the prevention of accumulation of refuse, the breeding places for flies" In Belfast house refuse is removed only once a fortnight Mr Bailie suggests in his report "that more frequent removals of house refuse be undertaken, particularly during the summer and autumn months" and he draws special attention to "the existence of hundreds of back passages which require to be paved, drained, and completed as in their present condition they are a menace to public health" If the plan in use in so many Scotch and English cities were adopted in Belfast—that is, the compulsory use of house bins and their frequent emptying—the infantile mortality would in all likelihood decrease It takes those carriers of disease—the flies—a week to come to maturity in their growth, and this pest would be combated by the prompt removal of house refuse As in many other cities the death rate from pneumonia in Belfast keeps very high, in 1912 there were 799 deaths from this disease being 331 in excess of the number in 1911 Is it not time that a campaign was started against this modern urban cause of mortality? One of the special facts brought out in the report is the continued prevalence of scarlet fever, which commenced in an epidemic form in Belfast in the middle of October, 1909 In 1910 there were notified 734 cases of scarlet fever, in 1911 the number was 766, while in 1912 it has risen to 916 (an attack rate of 2 3 per 1000) That is, in three years (1910-11-12) in Belfast 2416 cases have been notified In 1912 the disease was prevalent during the entire year but most so in the last four months There were 48 deaths, which gives a mortality rate of 5 2 per cent of those attacked—a fact indicating that in a number of cases the type of the fever was virulent It is regrettable to find that the epidemic has remained during 1913[1] In the epidemicity of scarlet fever Belfast is having the same experience as many English cities, and the problem of such a long continued epidemic has not yet been solved This medical report of Mr Bailie is a most welcome one indicating as it has done, that the public health department of the City of Belfast has in recent years been greatly improved, and any friendly criticisms made are simply in the direction of trying to improve the public health of the great industrial and commercial city of Ireland, of which its inhabitants are justly so proud

Medical Advisers to Insurance Committees

The secretary of the Irish Medical Committee has sent a circular to the members of the medical profession in Ireland drawing their particular attention to the following resolution which was passed at the last meeting of the Irish Medical Committee —

> That every consult[illegible]
> If he be a medical a[illegible]
> the local secretary of [illegible]
> his option of refusing [illegible]

There is no doubt whatever that in some quarters the feeling against the institution of these appointments is very strong

King Edward VII Memorial, Belfast

At a meeting of the executive committee of the King Edward VII memorial which is to take the form of a new block at the Royal Victoria Hospital for X ray and vaccine therapy, held in the City Hall Belfast, on Sept 23rd, the contract for the building was given to the same firm which built the new hospital The contract will amount to about £14 000, and there is an additional £4000 in reserve for furnishing

Sept 30th

PARIS

(FROM OUR OWN CORRESPONDENT)

A Suggested Cause of Appendicitis

A THEORY has recently been advanced which attributes to drinking water a causative role in certain obscure cases of appendicitis It is a remarkable fact that in a family of 16, six who drank only water had to be operated on while the rest escaped Appendicitis has certainly notably increased, especially in the well to do classes, since water drinking became fashionable—i e, within the past 25 years Is this to be ascribed solely to an increased *precision* of diagnosis? Does water contain a hitherto unrecognised microbe of appendicitis? Since many of the patients drank only mineral water or germ free fluids *it must* be a question not of what water supplies, but rather of what it does not remove or destroy The researches of Professor Sabrazès and others have shown that unsophisticated wine may be regarded as a good antiseptic—as *also may* cider, beer, and soured milk—in the absence of which the intestinal microbes germinate freely Appendicitis might be the occasional result of this free germination Professor Jalaguier, whose statistics are numerous, maintains an open mind, for his operation cases are divided equally between the two classes But it must not be overlooked that there are many kinds of appendicitis even tuberculous and cancerous, and that these arise from a variety of causes In any case the hypothesis in question based as it is on a wide collection of facts, appears not without point and calculated to assist in the rehabilitation of wine to its proper place

Tuberculosis of the Aged

Dr Baudet seeks to show that tuberculosis of the aged is much more frequent than is commonly supposed, a fact of importance from both a family and a social point of view In the Department of the Seine in ten years 12 293 aged persons died from tuberculosis so that 5 53 per cent of old people in Paris who died must have been tuberculous The danger to society from this frequency is greater because the aged subject of tuberculosis usually presents the open form with cavities and because in such subjects the tuberculosis is very often unrecognised Dr Baudet adduces examples of these sluggish pulmonary infections, progressing silently without either the patient or the medical man suspecting it This frequency of unrecognised tuberculosis affords an explanation of cases frequently observed by medical men in which families seem particularly predisposed to phthisis Dwelling with an aged relative in apparent good health children of all ages one after another fall victims of the infection or if they do not die are attacked with Pott's disease a white tumour, or a bacillary orchi epididymitis This aged relative sharing the overcrowded miserable lodging, goes out but little, fearing to catch cold, but spares neither kisses nor caresses to the little ones and often sleeps in the same room with them It is not to be wondered at that she coughs somewhat easily gets out of breath and 'catches cold' from time to time, without the least suspicion arising as to her connexion with the recurring deaths These facts show that the measures of disinfection ordained after a death should not be restricted, as is the case under the present law, to the cases of those who died between 2 and 60 years of age Aged or not, known or unknown, such tuberculous subjects disseminate contagion much more than those actually sick, and those about them do not take precautions against a condition which does not appear serious or the nature of which is unrecognised Finally, it must be remembered that even though the child is not born tuberculous he is born particularly "tuberculisable" and it is contrary to the interests of society not to remove the newly born from such a serious menace to disease and death

The Treatment of Burns by Heliotherapy

Dr Aimes has had remarkable success in the treatment of burns, recent or otherwise, by the action of the sun The sun acts on burns bactericidally, destroying the germs by causing active vaso-dilatation which creates a focus of vitality highly favourable to tissue repair and obnoxious to micro-organisms, by its analgetic action, by the formation of a protective pellicle, and by promoting cicatrisation. The technique is easy. Heliotherapy may be purely local or regional, it may be direct without the interposition of glass, of gauze, or of fatty bodies. Insolation should be administered in progressive doses, the head being always protected from the rays.

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[1] THE LANCET, Sept 27th, 1913 p 959

The Treatment of Hydrocele by Formol.

M. Morestin has again directed the attention of the Société de Chirurgie to a mode of treatment already advocated by him, and one which seems likely to replace the use of iodine injection. Take the case, for instance, of a one-sided ordinary hydrocele of medium size, with walls supple and uniformly thinned, and containing a completely translucent fluid. The subject lies on his back and the scrotum is lightly painted with tincture of iodine where the puncture is to be made. Anæsthesia, either local or general, is unnecessary, and, moreover, there is no occasion to remove the hair. Taking up the tumour in one hand, M. Morestin inserts in its upper part the needle of a Pravaz syringe. When the needle is fully inserted, its mobility in the cavity is made sure of. A little lower down a trocar is quickly inserted, and nearly the whole of the fluid is evacuated. When the cavity is almost entirely emptied the trocar is withdrawn, and through the Pravaz needle M. Morestin injects 2, 3, or even 4 c.c. of a mixture of equal parts of formol, glycerine, and alcohol. The needle is then withdrawn, and the fluid is caused by light massage of the scrotum to penetrate the recesses of the cavity. No dressing is necessary. The patient remains in bed or not as he pleases. The injection is hardly painful, and the consequent reaction causes very little pain, often none at all, although it is considerable; for the scrotum swells and becomes œdematous, without, however, showing any of the inflammatory reddening usually seen after the injection of iodine. After two or three days the swelling reaches its height. The greater part of the time the patient can get up without experiencing anything worse than weariness. The general health does not suffer, and the patient is deprived of neither appetite nor sleep. In three or four days retrogression begins and takes place rapidly, being finished in from three to five weeks. Long before this time the patient can resume his ordinary life.

Sept. 29th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The International Congress on First Aid and Ambulance Work.

THE month of September, 1913, will be long remembered in Vienna as the month of scientific congresses, the two most important, from a medical point of view, being the Congress of German Naturalists and Medical Men and the International Congress on First Aid and Ambulance Work. With the first-mentioned one, which was also the larger of the two, were combined the annual meetings of the German Dermatological, Pædiatric, Psychiatric, and Laryngo-Otological Societies. The International Congress on First Aid and Ambulance Work was held here from Sept. 9th to 13th. The number of enrolled members was over 1200, and no speaker was allowed more than 15 minutes, in order to enable the business to be completed within the stipulated four days. The Congress was an interesting manifestation of the achievements of the modern spirit of pity for those who may be in danger or distress, and Austrians might justly feel patriotic satisfaction on finding that their country was foremost in many respects as regards this subject. Apart from the social entertainments, which the representatives of the inviting city and country seem to regard as indispensable, the actual work done in the sections was extensive enough. The papers read before the Congress had to be presented under one of the following ten heads: first-aid in accidents, instruction of non-medical persons in first-aid, first-aid in towns and in country places, first-aid in travelling (with subsections devoted to automobiles, railways, and aeronautics), first-aid on the seashore and on the high seas, first-aid in mining industries, first-aid in conflagrations, in mountaineering, and in sport, and finally the prevention of accidents generally.

Practical Demonstrations in First-aid.

An interesting practical demonstration on first-aid on a large scale was presented to the Congress and the population generally by the Vienna Rettungsgesellschaft (Ambulance Corps). A test alarm was given to the effect that an accident had happened at the racecourse, that some 40 or 50 persons required immediate help because a wooden platform had given way under a mass of spectators, and that many victims had also been trampled on by horses and a panic-stricken crowd. A few minutes after the message arrived an ambulance detachment, consisting of 20 cars, with one medical man and one male nurse on each of them, made its appearance at the scene of the supposed disaster. Boy scouts acted the part of the injured. The methods of first-aid, the bandages ready for use for such cases, as well as the method of distributing the patients to the nearest hospitals, were demonstrated. To each supposed injured person a small board was attached giving information to the hospital staff of the nature of the injury and the treatment adopted, thus enabling the case to be promptly dealt with at the surgical station. A very similar demonstration of life-saving in the water was given a little later, when the methods of bringing out of the water a person unable to swim and of resuscitation of the apparently drowned were practised. The British Royal Humane Society served here as a model for the establishment of a society for first-aid in shipwreck, floods, attempted suicide by drowning, &c. As a matter of fact, it happened by a curious coincidence that just at the time of the demonstration a candidate for self-destruction wanted to drown himself at the scene of the proceedings. Needless to say, his attempt was promptly frustrated.

Exotic Diseases.—Life-saving at Sea.

The Transactions of the Congress contain many interesting papers. The danger of diseases epidemic in Asia being imported into Europe by the continuous stream of Mahomedan pilgrims returning from the hotbeds of plague, cholera, and small-pox in Arabia, was discussed by Dr. Kobler, the head of the Board of Health of Bosnia and Herzegovina. Since the completion of the railway between the Mahomedan holy places and Damascus the quarantine formerly provided by the caravan journey of a week's duration has been lost.[1] The journey now lasts only a few days, and European countries with Mahomedan populations must be on the alert and must provide special pilgrim stations on the frontier for all suspicious cases.—The prevention of loss of life in sea voyages was discussed in a paper by Professor Flamm, who said that watertight compartments should be constructed in the long axis as well as in the cross section of a modern ship, the stability of the vessel being of paramount importance. The number and capacity of the life-boats should be in direct relation to the number of persons on board the ship, and not to the tonnage of the vessel. A modern passenger steamer must have apparatus for wireless telegraphy, must be carefully ballasted by proper storing of the cargo and trimming of the fuel, and must have the fuel stored in fireproof compartments. Medical aid must be provided for each 300 or 500 souls, one medical man and a ship's hospital or ward, with at least six beds, being available. Cork belts must be within easy reach in the berths and on deck.

First-aid in Mountaineering and Aeronautics.

The organisation for first-aid in mountaineering is interesting, and for it thanks are due to the German and Austrian Alpine Society. The paper by the representative of this society gave particulars of the network of ambulance stations spread over the mountains of these countries (mostly the Alps). There are over 200 first-aid outfits distributed amongst them for emergency cases, and the services of a large number of voluntary helpers, as well as of paid officials, have been secured. They chiefly form rescue or search parties, and are supplied with ropes, ladders, and hammocks. Each station contains a first-aid chest, with splints, medicines, stretchers, bandages, and several small first-aid outfits for the authorised mountain guides. These latter have to attend Samaritan classes, where medical knowledge necessary for them is obtained. The Alpine danger signal is now adopted as an international signal, and the recognised guides are trained to deal with the ordinary accidents met with in the mountains, such as snow-blindness, frost-bites, and fractures. Thanks to the efforts of the above-mentioned society many lives have been saved within the last decade by the activity of these courageous mountaineers.—Aeronautics have received much attention of late from the medical standpoint on account of the great danger to life or health. Mr. Hinterstoisser, of the Army Aeronauts, stated in his paper that first of all smoking near an airship or aeroplane was distinctly criminal. Nobody should rush to the place where any air craft was preparing to descend. Medical attendance should be obtainable within an easy distance of an aerodrome, and a portable first-aid outfit should be ready at hand, as well as fire-extinguishing apparatus. Persons with an unstable circulatory or respiratory system should not meddle with aeronautics, and perfect hearing was also necessary for a would-be airman.

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[1] THE LANCET, 1908, vol. i., p 1799; vol. ii., pp. 971, 1104, 1248, 1405.

First-aid in Alcoholic Intoxication.

A good paper was devoted to first-aid in cases of serious alcoholic intoxication. Hitherto the majority of such persons have been dealt with by the police in a decidedly offhand fashion, the attendance of a qualified medical man being deemed unnecessary. Serious mishaps, however, have occurred now and then, with disastrous results to the patient, when bodily illness or injury has been mistaken for alcoholism and treated as such. Every person found helpless in the streets and suspected of alcoholic intoxication should therefore be put in special "awakening wards" and examined by the police surgeon. The coma of alcoholic intoxication was not less dangerous, it was explained, than coma due to any other cause, and responded better to correct treatment.

First-aid after Explosions in Mines and at Fires.

First-aid after explosions in mines was the subject of another interesting paper. The composition of the explosives used for blasting purposes was said to have a direct relation to the vitiation of the air in mines. Harmless by-products are formed in the combustion of several of the newer explosives, which in Austria are a monopoly of the Government, and are not allowed to be extensively employed. Various unfortunate incidents have led to very elaborate life-saving appliances being constructed and kept in readiness for use in this country. An exhibition of smoke-caps, electric searchlights to be carried on the head, and similar first-aid apparatus for mining disasters, including a fireproof suit of clothes, with airtight headpieces, an air reservoir, and chemicals for the removal of carbon dioxide from air which was to be breathed again, was much admired. A similar exhibit of the Vienna fire brigade attracted much attention. The latter comprised fireproof ladders, ventilators, and electric lights for use in buildings filled with dense smoke, whilst the Vienna Rettungsgesellschaft showed its portable kitchen for feeding people left without resources after great conflagrations and similar calamities. This kitchen outfit did excellent service at the scene of the memorable earthquake of Messina, when thousands of destitute survivors were dependent upon it for their daily meals.

I intend to send you a further account of this interesting meeting.

Sept. 29th.

ROYAL ALBERT INSTITUTION, LANCASTER.—The nin [illegible] will be held on Tuesday, Oct [illegible] meeting will be held in the De [illegible] under the presidency of Lord Richard Cavendish, chairman of the central committee. The institution, with the schools and workshops, will be open for inspection from 10.30 to 12 30. The presentation of long-service medals will be made by the Lady Moyra Cavendish at 12 o'clock. The medical superintendent, Mr. Archibald R. Douglas, will receive a gold medal for 17 years' service. The Countess of Derby will open the new Farm Colony Building at 12.30 P.M., and an address will be given by Mr. A. H. Trevor, Commissioner in Lunacy. A public meeting will be held in the De Vitré Hall at 2.15 P.M. under the presidency of the Earl of Derby, G.C.V.O. Addresses will be given on The Feeble-minded: Historical Retrospect, by Sir T. Clifford Allbutt, Regius Professor of Physic, Cambridge University; on the Future of the Royal Albert Institution, by Sir James Crichton-Browne, Lord Chancellor's Visitor in Lunacy; and on the After-care of the Feeble-minded, by Dr. C. Hubert Bond, Commissioner in Lunacy.

Correspondence.

"Audi alteram partem."

THE LATE DR. FRANK BUSZARD.

To the Editor of THE LANCET.

SIR,—For 40 years Dr. Frank Buszard undoubtedly held the premier position amongst the medical men of the South Midlands, and his death has left a blank which it will take a long time to fill. I should like to add a few words to the brief obituary notice which appeared in THE LANCET of Sept. 20th. Dr. Buszard was born at Lutterworth 74 years ago, the son of Marston Buszard, who practised in that town for many years, and whose father before him had also been a medical man, so Dr. Buszard in a way was steeped in medical tradition. He was educated at Rugby School, afterwards joined Guy's Hospital, where he had a distinguished career, and there is little doubt that if he had remained in London he would have taken a very prominent place in medical circles. Fortunately for Northampton, he decided to enter for the post of house surgeon at the Northampton General Infirmary, as it was then called, and after a strenuous contest (for one had to canvass all the governors) he was elected, and for some six years he filled the post. In those days there was no assistant house surgeon; he singlehanded had to look after the surgical and medical wards, and as one or two of the honorary staff were aged he had a very considerable share in the treatment of the patients. He rapidly won the confidence of the public, and when at the termination of his house surgeonship he started in practice in Northampton he soon achieved success, and his position was an assured one. In 1876 Mr. Mash, the senior surgeon, retired, and Dr. Buszard was elected to the vacant post. In those days he was a bold and skilful surgeon, and took a very keen interest in ophthalmic surgery, in which he had had special training at Moorfields. In 1878 Dr. Francis, the senior physician, retired, and Dr. Buszard resigned the office of surgeon and became physician to the hospital, a position which he held till his retirement about a year ago, when he was appointed consulting physician. In these days of specialism I suppose it will be a long time before we shall come across a medical man who had such a wide and varied knowledge of disease. Added to this—and assuredly a tremendous advantage—was a fine presence, a most kindly way in treating patients, and an invincible optimism which often helped to tide patients over the most critical periods. Dr. Buszard was a gentleman in the truest sense of the word, and for some 30 years he had the cream of the consultative work in Northampton and some 20 miles round. When it was suggested by either the patient or his friends that Dr. Buszard should be called in, one always welcomed the wish, as the medical man felt that he was certain to be helped in every way. I do not know if I am right, [illegible] a great deal [illegible] from Sir Wi[illegible] Buszard as one of his most distinguished pupils.

His interests were not confined simply to medicine; he was elected an alderman in 1881, retired from that position after a short time to fight a ward, when he was defeated, but shortly afterwards he was elected to another ward, and he held the position for 18 years. For the greater part of this time he was chairman of the public health committee, and most valuable services he rendered to Northampton in eradicating slums and improving the health of the people. He was very strong in his opinion that medical men should attempt to enter into public life, and always encouraged the younger men in their efforts to do so. He was a fluent speaker and a most capable debater, and I feel sure that I am stating a fact that when he left the Northampton town council it lost its most distinguished member. He was an ardent Conservative, often spoke at political meetings, and, though a strong partisan, his opponents always appreciated his keen and vigorous thrusts at their weak spots. For many years he was churchwarden of Dallington Church, and in the evening read the lessons. When I came to the town 30 years ago he was very devoted to lawn tennis and a very skilful player; this he kept up until osteo-arthritis crippled him and prevented him from joining in a four-handed game. As a young man, when at Guy's and the Infirmary, he was an excellent cricketer, excelling as a bat, and in later years we were glad to see him often up at the county ground watching the performances of the county cricket team. In 1911 it was suggested that it would be an appropriate acknowledgment of his many services to present him with his portrait. The idea was taken up very eagerly by all classes, some 200 subscribed to the fund, and Mr. Harris Brown was chosen to paint the portrait and a replica. One hangs in the board room of the hospital, the other was presented to Mrs. Buszard at a gathering of the subscribers in a highly congratulatory speech by the late Marquis of Northampton.

Dr. Buszard's health failed very much during the past year, and in June he finally retired from medical work. About ten days before his death he was seized with gastric symptoms, renal complications occurred, and he passed away on Sept. 14th. He touched life at many points, and he will be long and sincerely mourned by all those who had the privilege of knowing him.

I am, Sir, yours faithfully,
R. A. MILLIGAN.
Northampton, Sept. 29th, 1913.

THE NECESSITY FOR ACCURATE REGISTRATION.

To the Editor of THE LANCET.

SIR,—May I once more ask you for your valuable assistance in reminding members of the profession that, unless their names appear in the Medical Register, they are not "legally qualified medical practitioners" (Medical Act, 1858, Section 34), and that the duty of notifying changes of address rests with them. No person can—

hold any appointment as a physician, surgeon, or other medical officer either in the military or naval service, or in emigrant or other vessels, or in any hospital, infirmary, dispensary, or lying-in hospital, not supported wholly by voluntary contributions, or in any lunatic asylum, gaol, penitentiary, house of correction, house of industry, parochial or union workhouse or poorhouse, parish union, or other public establishment, body, or institution, or to any friendly or other society for affording mutual relief in sickness, infirmity, or old age, or as a medical officer of health, unless he be registered (Section 36).

And—

no certificate required by any Act now in force, or that may hereafter be passed, from any physician, surgeon, or licentiate in medicine and surgery, or other medical practitioner, shall be valid unless the person signing the same be registered (Section 37).

The Medical Register is the only official publication, and it should not be confused with any of the various directories which issue circulars annually. No one who is not familiar with the work of this office would believe the amount of trouble which is taken to keep in touch with practitioners, and to find them when touch has been lost, but, unless we are assisted by members of the profession themselves, our efforts are often fruitless.

In consequence of cases which have recently occurred, it becomes increasingly important every year that the Registrar should carry out the duty laid upon him under Section 14 of removing from the Register the names of practitioners with whom he cannot communicate. It is done with reluctance, but only by this means can the public and the profession be protected against impostors. No doubt cases of hardship do sometimes arise in consequence of this removal of names, but every possible source of information is made use of to save practitioners from the results of their own forgetfulness, and, if they are inconvenienced by finding that their names are off the Register, the blame does not rest with this office. The duty of notifying changes of address rests with practitioners; the registrar is obliged to send communications to registered addresses only, but the practice is to make use of every available source of information.

I therefore hope that all practitioners who have any doubt as to the accuracy of their address in the Register will communicate with this office without delay, and, if they will give their full names and qualifications in legible writing, it will be of great assistance to us. All communications will be duly acknowledged. Perhaps I may add that by a recent Regulation practitioners possessing medical and dental qualifications, if already on the Medical Register, may register in the Dentists Register, or *vice versâ*, for a reduced fee of £2 1*s*. instead of £5 1*s*.

I should like to take the opportunity of drawing attention to the following resolution adopted by the Council on Nov. 30th, 1911. It cannot be too strongly urged upon practitioners that in giving certificates they are recognised by law as members of a trusted profession, and that it behoves them to exercise the greatest possible care in the matter.

Whereas registered medical practitioners are in certain cases bound by law to give, or may be from time to time called upon or requested to give, certificates signed by them in their professional capacity, for subsequent use either in courts of justice or for administrative purposes: And whereas such certificates include, amongst others:—

Certificates:—
(*a*) Under any statute relating to births, deaths, or disposal of the dead;
(*b*) Under the Lunacy Acts;
(*c*) Under the Vaccination Acts;
(*d*) Under the Factory Acts;
(*e*) In relation to children or to excusing school attendance;
(*f*) In connexion with Sick Benefit, Insurance, and Friendly Societies;
(*g*) In connexion with workmen's compensation;
(*h*) In connexion with naval or merchant shipping;
(*i*) For procuring the issue of Foreign Office passports;
(*j*) For excusing attendance in courts of justice, in the public services, in public offices, or at ordinary employments;

And whereas it has been made to appear to the General Council from [illegible] medical practitioners have given and [illegible] roper certificates of the above specified [illegible]

Now, therefore, the General Medical Council hereby give notice that [illegible] er who shall [illegible] per certificate, [illegible] otherwise, is [illegible] conduct in a professional respect and [illegible] Medical Register under Section 29 of the Medical Act, 1858.

I am, Sir, yours faithfully,
NORMAN C. KING, Registrar.
299, Oxford-street, London, W., Sept. 26th, 1913.

LORD KELVIN AND THE ETHER OF SPACE.

To the Editor of THE LANCET.

SIR,—In the restful radiance of these southern waters I have been reading in THE LANCET of Sept. 13th your comments on the ether of space in Sir Oliver Lodge's recent address to the British Association, and you have awakened a vivid recollection of an interesting conversation on the genesis and evolution of matter and kindred interests which I had with Lord Kelvin shortly before his death. I had at that time been speaking on the significance of radium emanation and helium, &c., in relation to solar energy, and time, and time estimates, in an address at the centenary meeting of the Geological Society on behalf of the College of Physicians, and on the occasion of our meeting Kelvin brought me an advance copy of a short but very interesting paper, entitled "Gravitational Matter," which may or may not have been published subsequently.

He explained that the first word "*given* a definite quantity" in the opening sentence, though a mathematical commonplace, was also applicable in the creative sense, and it was in response to my quotation from Milton, "Hard thou knowest it to exclude ethereal substance with corporeal bar," which led to the expression of his views on the interstellar medium. Kelvin considered the ether as an all-pervading agent, possessing certain definite attributes of which radiation and gravitation were evidence, and held that any theory of evolution or condensation of ether into gravitational matter would mathematically conflict with the condition precedent that such a medium should exercise no restraint on the perfect mobility of the matter immersed in it. He shrank from asserting that the ether had no "influence" on matter, and deprecated any objections to generally received views on the subject as "whimsical."

Lord Kelvin at that time seemed to stand sceptical or with suspended judgment at the assertion of elementary instability or transformation, and frankly resented the illogical notion of dissecting an atom, but nevertheless in the vast progress since established in our knowledge of matter and of the ebb and flow in universal attenuation and condensation he would surely have taken a leading part, especially perhaps assisting our understanding in the corpuscular character we are inclining to superimpose upon undulatory light, and perhaps imparting a new significance to the ether of space itself.

I am, Sir, yours faithfully,
MICHAEL GRABHAM.
Position approximately N. Lat. 37°, W. Long. 13°,
Sept. 20th, 1913.

THE CORRELATION OF BIRTH-RATES AND DEATH-RATES.

To the Editor of THE LANCET.

SIR,—In THE LANCET of July 19th last there appears a letter by Dr. Binnie Dunlop under the above heading. I desire to draw the attention of Dr. Dunlop to the birth- and death-rates of British Guiana for the last 30 years, since in this colony his contention appears completely wrong:—

Year.	Birth-rate.	Death-rate.	Year.	Birth-rate.	Death-rate.
1883	31·4	30·2	1898	29·6	33·9
1884	29·8	30·6	1899	28·7	29·1
1885	31·6	29·5	1900	37·8	26·1
1886	35·2	25·5	1901	35·9	23·6
1887	32·3	32·4	1902	33·4	28·1
1888	30·8	29·2	1903	29·1	28·9
1889	38·1	28·1	1904	30·3	28·8
1890	30·9	39·8	1905	33·6	27·4
1891	27·0	37·0	1906	32·9	28·8
1892	28·0	39·0	1907	28·3	36·9
1893	27·3	35·4	1908	27·3	30·8
1894	24·9	33·5	1909	29·3	30·0
1895	28·0	29·6	1910	27·5	34·4
1896	32·6	26·4	1911	28·8	31·7
1897	33·2	27·5	1912	33·1	29·2

I am, Sir, yours faithfully,
K. S. WISE,
Medical Officer of Health.

LOW-PRICED CLINICAL THERMOMETERS: A WARNING.

To the Editor of THE LANCET.

SIR,—The experiences hereinafter set out may serve as a warning to all who are interested in the purchase of clinical thermometers for use in institutions, where, owing to the large number of breakages, there is a natural desire to reduce the cost of these articles as much as possible.

On August 29th three dozen clinical thermometers, at 10*s.* 6*d.* a dozen, were received from a well-known firm of surgical instrument makers. In order to be tested they were all placed together in an upright position and were totally immersed in warm water. After five minutes, during which time the water was continuously agitated, the temperature indicated by each was recorded. The following are the readings in order of removal from the water: 99·4, 98·2, 99, 101·6, 101, 101·2, 98·8, 99·6, 101·6, 100·6, 99·2, 99, 100, 101·6, 99, 99·6, 98·2, 100, 100·2, 99·8, 98·4, 98·6, 99, 98·6, 99·8, 96·4, 99, 98·2, 100·8, 96·8, 98, 98·6, 101·6, 98·8, 99, 100.

These were, of course, returned to the vendors, who replied that they could not guarantee the accuracy of such low-priced articles, but they stated that they could supply really reliable thermometers at 18*s.* per dozen, which they would guarantee to one-fifth of a degree. Three dozen of these were accordingly ordered, and when delivered they were submitted to a similar test. For a given temperature the readings were as follows: 100·2, 100·8, 102·4, 102·6, 102, 101, 101·2, 105, 100·8, 101·6, 100·6, 102·2, 104·4, 104·2, 103·8, 105, 102·8, 104·8, 102, 98, 98·2, 99·6, 100·8, 103·6, 100·4, 102·2, 103, 103·6, 100·2, 99·2, 105·4, 99·4, 100·4, 102·8, 102, 102.

These in turn were rejected, and a third batch (of 18) were supplied. This time a representative of the firm, armed with two thermometers with Kew certificates, attended to witness the testing. As before, the thermometers were placed in warm water, and in addition the two certificated thermometers were also immersed. The latter indicated that the temperature of the water was 98·4. The other thermometers gave the following readings: 97, 95·8, 96·5, 95·7, 96, 96·2, 95·8, 96·5, 96, 95·6, 97, 96·2, 95·4, 97·2, 96·8, 97, 96·9, 97.

The test was then repeated with water that was rather warmer, the Kew-tested thermometers indicating a temperature of 105·2. The others gave the following readings: 102, 102, 101·5, 101·5, 102·2, 101·3, 103, 103, 103·6, 103, 103, 103·4, 102·6, 103·4, 101·4, 103·2, 101, 101·4.

The firm's representative retired crestfallen taking his thermometers with him. Up to the time of writing no further consignment has been received.

I am, Sir, yours faithfully,
J. BASIL COOK,
Medical Superintendent to the St. Giles Infirmary.
Sept. 24th, 1913. Cleveland street, W.

THE SCOPE FOR POST-GRADUATE TEACHING.

To the Editor of THE LANCET.

SIR,—[illegible] ment to [illegible] which, in the [illegible] the table, were all beyond the competence of the general practitioner to perform. The list occupied about three-quarters of a column, enumerating about 50 or 60 operations, and it undoubtedly constituted a damning indictment of the inefficiency of the general practitioner. Incidentally, it is also a fierce slur upon the schools which turn out uncompleted practitioners in such vast numbers every year to make good the waste caused by death and other causes. The general body of inefficient general practitioners is recruited by the qualified but incompetent graduate. That list was published in all good faith in the belief that a doctor in general practice had neither the skill nor the knowledge with which to undertake these operations—that he never had the competence, even at the moment of his graduation, nor had since then had the energy or the field on which to acquire such proficiency. The object of the committee in publishing this list was to support its claim for special fees under the scheme it was pressing upon the acceptance of the Government, but it stands in all its nakedness as the deliberate judgment of the heads of the Association upon the proficiency of the general practitioner. It cannot be supposed that the committee had the cold-blooded intention of wantonly insulting the general practitioner—as far as my reading goes no protest has ever been published in the journal—indeed, the schedule seems to have been received with general acquiescence as comprising pretty well everything in the surgical line that he is unable to perform with efficiency. It seems also to be commonly accepted as true that the general practitioner is not conversant with the developments that have attended the progress of medicine in late years. The technical methods employed nowadays in diagnosis and treatment, the investigations pursued in the modern laboratory, are all assumed to be beyond the ken of the doctor in general practice. [illegible] almost a habit to believe that he is as a rule [illegible] of surgery, his knowledge o[illegible] gynæcology. It would appear to be a case of judgment by default.

I believe the general practitioner is fully alive to his limitations, and is keenly anxious to remove the slur that attaches to the position he occupies in the profession. He does not lay blame on the school for turning him out incompletely equipped for the work he has to perform, but he looks round for a way by which he can proceed to make himself sufficient. Dr. C. O. Hawthorne, in his admirable address at the International Conference on Post-Graduate Medical Education,[1] indicates several paths by which the general practitioner in pursuit of this object may wend his way. Doctors practising in London and the provincial cities provided with schools seem to have abundant means within their reach for "the cultivation of efficiency," though Dr. Hawthorne regrets to find that these means "exercise but little influence on the local profession." It may be that the system of post-graduate education in existence at these centres does not meet the needs or the opportunities of the local profession. In my opinion the practitioner stands most in want of clinical experience—it is essential that he should see and handle cases, see applied the latest methods in diagnosis and treatment, witness operations, and have a short exposition on each case by the demonstrator. Set lectures are in my humble judgment a mistake as they take up too much time. The busy practitioner must have his instruction potted.

Whatever is being done for the city practitioner it will scarcely be denied that the country practitioner, exposed as he is to influences that all tend [illegible] stagnation and deterioration, has been left [illegible]elf and letter (and have left a third step in the toilet, necessary in severe cases, undescribed).—I am, Sir, yours faithfully,

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[1] THE [illegible]t. 6th.

Sept. 27th, 1913. H. B. L.

THE NATIONAL INSURANCE ACT AND UNREGISTERED DENTISTS.

To the Editor of THE LANCET.

SIR,—Your leading article of Sept. 20th on "Legislation with Regard to Anæsthetics," and the debate upon the report of the British Association's committee, bring into prominence the dangers of the practice of dentistry by unregistered persons. Is it not a "disadvantage of a public kind" that such practice should be permitted at all? Could not the Government, through the Insurance Committees if in no other manner, help in some measure to protect the public? As matters stand at present, it appears medical men must afford medical benefit to those insured persons who may require it in consequence of having been treated by an unqualified person, though such misconduct on the part of the member *may* bring about the suspension of the sickness benefit. *May* is used advisedly, as I understand one society with branches over a great part of the country actually pays such unregistered practitioners out of its friendly side funds. The model rules say an insured person "shall obey the instructions of the practitioner attending him"; but he does not present himself for attendance until the mischief is done. The total of this extra work thrown upon the profession must be very considerable, and borders on "covering" irregular practitioners. It would be a great boon if some line of action were indicated by which this most involuntary aid to unqualified practice could be abolished or largely diminished. I am, Sir, yours faithfully,

Sept. 29th, 1913. M.B.

THE NATIONAL INSURANCE ACT.

Uniformity in Medical Certificates.

REPRESENTATIONS from many quarters have reached the National Health Insurance Commission pointing to the desirability of securing some uniformity of the medical certificates issued in connexion with claims for sickness benefit under the National Insurance Act. The fact will cause no surprise to those who have seen in THE LANCET references to the difficulties which have arisen owing to the demands of various Approved Societies with regard to these certificates being of a contradictory nature. The Commissioners, in Memo. $\frac{173}{\text{I.C.}}$, divide the medical certificates required to be furnished under the Act into the *initial* certificate, which the insured person must forward to the society with his "declaring on note," the *continuing* certificate, and the *final* certificate. A general acceptance has been secured from the Approved Societies of an *initial* certificate, and the form in question, Form Med. 34, has been supplied for issue to all medical men on the panels, who may use it in lieu of Form Med. 26. But concerning the *continuing* and *final* certificates, a common form cannot be found which is adaptable to the administrative requirements of Approved Societies of every type. Forms, however, marked A.S. 75 and 76, have been issued to Approved Societies for their assistance in framing continuing and final certificates to be used in the future.

Funds arising through Insured Persons not having Chosen their Medical Men: the Position in London.

A curious and unexpected situation has arisen in London owing to the London Insurance Committee not having distributed among the medical practitioners whose names are on their lists a large number of insured persons who have failed to make any selection of a practitioner or "panel doctor" to attend them when sick. The obvious result has been the accumulation of a considerable sum of money, which by the end of the year will, it is estimated, amount to £140,000, and this it is contended by some ought to be distributed among the medical men working under the Act. The opinion of counsel has accordingly been sought by the London Insurance Committee, and Mr. Danckwerts, K.C., has advised that the medical practitioners on the panel are only entitled to be paid definite sums calculated at so much per head of the insured persons on their lists. He is unable to find in the contract any right to claim more, and added that the Committee is "not entitled to make presents or distribute largesse among the panel doctors ...... and cannot, as matters stand, deal with the fund." The matter was discussed at a meeting of the London Insurance Committee, when it was urged by medical members of the Committee that the money in question was in their hands for the remuneration of medical men on the panels and should therefore be paid to them. This view will no doubt be shared by medical men in other localities than London where the same circumstances exist, and possibly the advice of further counsel may be invoked. The first question to be decided is what committees have authority under the Insurance Act to do (not what they ought to do ethically) under conditions which, as we understand the matter, need not be universal and might have been avoided. Without wishing to make any unnecessary personal reference, we would add that Mr. Danckwerts is a barrister who enjoys a high reputation in his profession as a lawyer, and that he has expressed his opinion in terms which suggest no kind of doubt or reservation. The question must receive the careful attention of the Commissioners, who will be asked to receive a deputation from the London Committee on the subject. At the same meeting the receipt was reported of Circular 29 I C from the Commissioners recommending a numerical distribution of unallotted persons quarter by quarter "among the doctors on the panel upon whom rested collectively the responsibility of treating the whole of the insured persons." The Commissioners added that adequate arrangements should be made with the doctors on the panel whereby insured persons entitled to medical benefit who were not yet on a doctor's list should be able to receive treatment without delay if required. The Medical Benefit Subcommittee recommended the Committee, before taking action on these lines, to ask the Commissioners to receive a deputation. In the course of debate Mr. F. Briant, chairman of the subcommittee, suggested a friendly action brought by the medical profession against the Committee to settle the point at issue. Dr. H. H. Mills said counsel's opinion struck at the root of the agreement made between the medical profession and the Chancellor of the Exchequer at the beginning of the year. The claim of the medical service under the Act was that all the money ear-marked for medical benefit belonged to the medical service and that service alone, with the exception of the money in respect of those who had made their own arrangements and the money due to the druggists. Mr. H. Kingsley Wood declared that it would shock the public conscience if payment for 400,000 persons went to doctors on the panel who had not done a stroke of work for the money. Dr. B. A. Richmond urged that the doctors on the panel took the risk of sickness amongst these 400,000 people and were entitled to the money. Mr. E. B. Turner said a very definite impression was given when the medical service was inaugurated that all the money would go to doctors on the panel; consequently the Committee was now in a very unfortunate position. Members could not vote the money for fear of being surcharged.

The Question of Complaints in connexion with Insurance Practice.

The Medical Service Subcommittee of the London Insurance Committee since January has had before it 38 complaints made by patients against medical practitioners on the panel, of which 20 were substantiated, and two complaints, both proved, lodged against patients by medical practitioners. The subcommittee has recommended that the practice hitherto pursued shall be continued of only disclosing the name of a medical practitioner complained of when the committee has carried the matter before the Insurance Commissioners with a view to the practitioner being removed from the panel, and when the Commissioners have held the allegations thus made to have been proved. This practice follows the obvious analogies provided by the General Medical Council, the Incorporated Law Society, and the Pharmaceutical Society of Great Britain.

The Amenities of Panel Practice.

"Just because you pay a penny or so a week you imagine that a doctor is to be ordered about like a dog at any moment of the day or night. If the doctor in the most generous way had not put in a plea for you I should have made it a heavy penalty." In these terms Mr. D'Eyncourt, sitting at Clerkenwell police court, admonished a man who, in a drunken condition, had roused a medical man on whose list of patients the man's wife was included, and sent him at midnight to look for a supposed dying woman who, as a matter of fact, was able to go to work, and who had removed from the address at which she was entered as residing. The defendant was charged with using abusive language, and bound over in the sum of £5 to behave himself for 12 months.

The Cost of Medicine for Insured Patients.

Attention having been drawn at Manchester to the possibility of the Insurance Committee not being able to cover the cost of drugs supplied to patients under the Act through the fund at its command being insufficient, correspondence has taken place in the *Manchester Guardian* which merits attention. The Manchester Pharmaceutical Association Insurance Committee has intimated that it considers that the drug fund, if carefully administered, will meet the demands made upon it under normal conditions if the money be spent on drugs taken at their market value *plus* the cost of preparation. The deficiency, if any, it is suggested, will be due to special brands of drugs being ordered and through payment for "trade marks and proprietary values" being demanded. This, however, does not mean that the prescription of proprietary articles to panel patients is always regarded by Insurance Committees as extravagant, and, indeed, to take up this position would be quite impossible. A few days ago Messrs. E. T. Pearson and Co., Limited, were informed by the London County Insurance Committee that lactagol and the vasogen compounds could be prescribed for panel patients, and that the charges therefor would be passed by the committee, and other Insurance Committees have adopted the same attitude in similar cases.

The Appointment of Medical Referees in London.

The London Insurance Committee have decided to divide London into six districts for the purposes of the appointment of medical referees, instead of four, as originally proposed. The terms of the appointment were fixed at 7*s.* 6*d.* for each examination and report, and reasonable travelling expenses beyond two miles. The Commissioners have only approved [illegible] a period ending at C[illegible] ments were made: [illegible] wark, M.D., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond. North District.—John Herbert Burroughs, M.R.C.S. Eng., L.R.C.P. Lond. East District.—John Fletcher Porter, M.B. Lond., L.S.A. South-East District.—Hugh Davies, M.B., B.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond. South District.—Eric Bayley, M.D., B.S. Lond., F.R.C.S. Eng. South-West District.—Reginald Crosse, B.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the First Professional Examination held on Sept. 23rd, 24th, 25th, and 26th the following candidates were approved in the undermentioned subjects:—

Chemistry and Physics.—Edgar Richard Batho, St. Paul's School; [illegible]

Chemistry.—William Bl[illegible] Hospital; John Ryt[illegible] Middlesex Hospital; [illegible] Edward Fasken, Guy'[illegible] and Frederic Francis [illegible]

Physics.—H[illegible] George W[illegible] Middlesex [illegible] versity; a[illegible]

Biology.—E[illegible] St. Thom[illegible] Christoph[illegible] Nelson, I[illegible] Wilson T[illegible] pital; E[illegible] Bertram [illegible]

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Preliminary Science Examination for the Licence in Dental Surgery the following candidates were approved in the undermentioned subjects:—

Chemistry and Physics.—Alice Maud Mary Clegg, Eastern District Secondary School, Douglas; Robert Peter Dewar, London Hospital; Morgan James Evans, Transvaal University, Johannesburg, and Birmingham University; James Ernest Horton, London Hospital; Lionel Beresford James, Bristol University; Ernest Arthur West, Wolverhampton Grammar School; Lindsay William Wilson, London Hospital; and Robert Wolff, Royal Dental Hospital.

Chemistry.—Walter Kember, Liverpool University; Reginald John Newman, London Hospital; William James Robinson, Charing Cross and Royal Dental Hospitals; Percy Williams, Holt School of Science, Birkenhead, and Claude Young, Royal Dental Hospital.

Physics.—George Frederick Harry Bloom, Darlington Technical College; Norman Douglas Green, Eastern District Secondary School, Douglas; Geoffrey Miles Haydon and William Grant Milton, Bristol University, and Frank Watson Stiven, Birkbeck College and Guy's Hospital.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held in September the following candidates satisfied the examiners:—

FIRST M.B. EXAMINATION.

[illegible] C. Fiddes, [illegible]

DIPLOMA IN DENTISTRY.

[illegible] G. P. Anderson and G. C. Porley. [illegible] Cardwell, Harry [illegible] W. H. D. Quinn, [illegible] inson, and N. H. Wood.

THE CHADWICK LECTURES ON SANITARY SCIENCE.—The syllabus of these lectures, which are delivered free to the public, has just been issued, and during the next four months several series of three lectures will be given at London, Glasgow, Bristol, and Southampton, on Sanitation in Various Aspects. A [illegible] medical men will preside, [illegible] Sir Isambard Owen, Sir [illegible] Herringham. In the first half of October, at Glasgow, Mr. W. E. Riley, superintending architect to the London County Council, will give three lectures on Practical Problems of Housing Reform, and in the last weeks of the month Dr. Leonard Hill at Bristol will take for his subject the Physiological Principles of Heating and Ventilating. During November Sir George Newman, chief medical officer to the Board of Education, and Mr. W. Addington Willis will respectively discuss the Place of the Open-air School in Preventive Medicine and House Drainage Law; while at Southampton Surgeon-General G. J. H. Evatt will take for his subject the History of Physical Efficiency in the Army. In January Dr. Killick Millard will lecture on Vaccination in the Light of Modern Experience. The lectures in London will be held at the University of London, the Institution of Civil Engineers, Westminster, and at Toynbee Hall, Whitechapel. Full particulars can be obtained from the secretary, Mrs. Aubrey Richardson, 8, Dartmouth-street, Westminster.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE (UNIVERSITY OF LONDON).—After an examination held [illegible] Science have [illegible] cholarships of [illegible] urch, Oxford, [illegible] e, Cambridge. 2. *Junior Science Scholarship of £150*: J. P. Ross, of [illegible] Preliminary Sci[illegible] Department, St. Bartholomew's Hospital. 3. Arts: [illegible] Dick, of Epsom College, and L. [illegible] College (equal). 4. Jeaffreson Exhibition of £50: R. J. Perkins, of Bedford Modern School.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. J. P. [illegible] of the oldest members of the [illegible].—Dr. Franz C. Müller, court [illegible] eminent [illegible] aged 53. He [illegible]

Metropolitan Hospital, Kingsland-road, N.E.—House Physician and House Surgeon. Salary at rate of £60 per annum, with board and washing. Also Assistant House Physician and Assistant House Surgeon. Salary at rate of £40 per annum, with board and washing. All for six months. Also Pathologist and Registrar. Salary at rate of £120 per annum. Also Assistant Physician.

Middlesbrough, North Ormesby Hospital.—Assistant House Surgeon. Salary at rate of £100 per annum for first six months, and £110 per annum afterwards, with board, apartments, washing, and attendance.

Middlesex Hospital, W.—Dental Surgeon

Newcastle-upon-Tyne Education Committee.—Second Whole-time Assistant Medical Officer. Salary £250 per annum.

Newcastle-upon-Tyne, Hospital for Sick Children.—Senior Medical Officer and Junior Medical Officer for six months. Salary £100 and £80 per annum respectively, with board, lodging, and laundry.

Newcastle-upon-Tyne, University of Durham College of Medicine.—Lecturer in Diseases of the Throat, Nose, and Ear, Diseases of the Skin, and Diseases of Children.

Northampton County Asylum, Berry Wood, Northamptom.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

Nottingham General Hospital.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry.

Oxford County Asylum, Littlemore, near Oxford.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

Paddington Green Children's Hospital, London, W.—House Physician and House Surgeon for six months. Salary at rate of £52 10s. per annum in each case, with board and residence.

Park Hospital for Children, Hither Green, London, S.E.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

Perth, James Murray's Royal Asylum for Lunatics.—Physician-Superintendent. Salary £700 per annum, with furnished house, &c.

Plymouth, South Devon and East Cornwall Hospital.—House Physician for six months. Salary £75 per annum, with board, residence, and washing.

Portsmouth Royal Hospital.—House Surgeon for six months. Salary £80 per annum, with board, &c.

Preston, County Asylum, Whittingham.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and washing.

Prince of Wales's General Hospital, Tottenham, N.—Honorary Assistant Ophthalmic Surgeon. Also Senior House Physician and Senior House Surgeon. Salary £75 each per annum. Junior House Physician, Assistant Pathologist, and Junior House Surgeon. Salary £60 each per annum, with residence, board, and laundry. All for six months.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Clinical Assistants in Out-patient Department for Medical, Surgical, and Eye cases. Also Assistant Physician.

Reading, Royal Berkshire Hospital.—House Surgeon and Second House Surgeon for six months. Salary in each case £80 per annum, with apartments, board, and washing.

Rochdale Infirmary.—Second House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

Royal Free Hospital, Gray's Inn-road, W.C.—Male and Female House Physicians and House Surgeons for six months. Board, lodging, and washing provided. Also Female Junior Obstetric Assistant for six months. Board, lodging, and washing provided.

Royal Hospital for *Diseases* of the Chest, City-road, E.C.—Clinical Assistants in the Out-patient Department.

Royal London Ophthalmic Hospital, City-road, E.C.—Senior House Surgeon. Salary £100 per annum, with board and residence.

Royal National Orthopædic Hospital.—Two Resident House Surgeons, unmarried, for six months. Salary at rate of £100 per annum, with board, residence, and washing.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer for seven months. Salary at rate of £70 per annum, with residence, board, and laundry.

Scalebor Park Asylum, Burley-in-Wharfedale.—Assistant Medical Officer. Salary £180 per annum, with board, apartments, attendance, &c.

Scarborough Hospital and Dispensary.—Senior House Surgeon and Junior House Surgeon. Salary £100 and £80 per annum respectively, with board, residence, &c.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £90 per annum, with board and apartments.

Southampton, Royal South Hants and Southampton Hospital.—House Physician. Salary at rate of £100 per annum, with rooms, board, and washing.

Swansea General and Eye Hospital.—House Surgeon. Salary £125 per annum, with board, washing, and attendance.

Taunton, Somerset and Bath Asylum, Cotford.—Assistant Medical Officer, unmarried. Salary £180 per annum, with apartments, board, washing, attendance, &c.

Wakefield General Hospital.—Second House Surgeon, unmarried Salary £100 per annum, with board, lodging, and washing.

Warrington, Lancashire County Asylum, Winwick.—Assistant Medical Officer. Salary £200 per annum, with board, apartments, attendance, and washing.

Warrington Union.—Assistant Resident Medical Officer. Salary £150 per annum, with apartments, rations, &c.

West Bromwich and District Hospital.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

West Ham and Eastern General Hospital, Stratford, E.—Junior House Surgeon. Salary at rate of £75 per annum.

Westminster Union Infirmary, Colindale-avenue, Hendon, N.W.—Assistant Medical Officer. Salary £160 per annum, with board, residence, and washing.

Whitehaven and West Cumberland Infirmary.—Resident House Surgeon. Salary at rate of £120 per annum, with board and lodging.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with rations, apartments, and washing.

Wisbech Union.—District Medical Officer and Public Vaccinator. Salary £53 per annum.

York Dispensary and Maternity Hospital.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

The Chief Inspector of Factories, Home O[illegible] notice of vacancies as Certifying Surgeo[illegible] Workshop Acts at Clacton-on-Sea, in t[illegible] Gillingham, in the county of Dorset; at [illegible] Bedford; at Willenhall, in the county of [illegible] in the county of Suffolk.

Births, Marriages, and Deaths.

BIRTHS.

Derry.—On Sept. 25th, at "Windspoint," Higher Drive, Purley, Surrey, to Dr. and Mrs. D. E. Derry, a daughter.

Griffin.—On Sept. 22nd, at Baldock, Herts, the wife of John P. Griffin, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

Mole—Holmes.—On Sept. 30th, at St. Gabriel's, Warwick-square, S.W., by the Rev. L. H. Nixon, M.A., Precentor of Westminster, and the Rev. Noel Kynaston Gaskell, Curate of St. Gabriel's, Harold F. Mole, F.R.C.S., of 19, Mortimer-road, Clifton, son of the late F. M. Mole, of Westfield-road, Edgbaston, to Harriet (Hettie), youngest daughter of the late Reuben Holmes, of Heanor, Derbyshire.

Pearce—Stirling.—On Sept. 27th, at the Church of the Holy Innocents, Fallowfield, Manchester, by the Rev. Eric G. Southam, Percival Leslie Pearce, M.B., Ch.B., second son of the late Mr. and Mrs. William Pearce, of Kingston, Jamaica, to Elizabeth Ferguson, elder daughter of William Stirling, M.D., D.Sc., Belfield Lodge, Fallowfield, Manchester. At Home Nov. 25th and 26th, Enfield House, Bury Old-road, Manchester.

Sandison—Gold.—On Sept. 4th, at the South Croydon Congregational Church, Alexander Sandison, M.B., B.C., B.A. Cantab., B.Sc. Lond., of Croydon, to Esther Catharine, eldest daughter of Mr. and Mrs. Gold, of Croydon.

DEATHS.

Brown.—On Sept. 30th, at Fitzjohn's-avenue, N.W., William Carnegie Brown, M.D., M.R.C.P., aged 54 years.

Norris.—On Sept. 29th, at City Walls, Chester, Deputy Surgeon-General Nathaniel Norris (Retired List), in his 83rd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

BOOKS, ETC., RECEIVED.

Laurie, T. Werner, Limited, London.

The Cathedrals of Southern Spain. By C. Gasquoine Hartley (Mrs. Walter M. Gallichan). Price 6*s.* net.

Lippincott (J. B.) Company, London and Philadelphia.

Syphilis and the Nervous System. For Practitioners, Neurologists and Syphilologists. By Dr. Max Nonne, *Chief of the Nervous* Department in the General Hospital, Hamburg, Eppendorf. Authorised Translation from the Second Revised and Enlarged German Edition. By Charles R. Ball, B.A., M.D. Price 18*s.* net.

Treatment of Internal Diseases. For Physicians and Students. By Professor Norbert Ortner, of the University of Vienna. Edited, with Additions, by Nathaniel Bowditch Potter, M.D., Assistant Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York. Translated by Frederic H. Bartlett, M.D. Second edition in English, revised and reset from the Fifth German Edition, Price 21*s.* net.

Massage, Manual Treatment, Remedial Movements. History, Mode of Application, and Effects; Indications and Contra-indications. By Douglas Graham, M.D., Consultant and Instructor in Massage, Boston, Mass. With a Chapter on Massage of the Eye. By Dr. A. Darier, Paris. Fourth edition, revised and enlarged. Price 21*s.* net.

The Psychoneuroses and their Treatment by Psychotherapy. By Professor J. Dejerine, Professor of the Clinic for Nervous Diseases of the Faculty of Medicine of the University of Paris; and Dr. E. Gauckler, Ancien Interne of the Hospitals of Paris. Authorised Translation by Smith Ely Jelliffe, M.D., Ph.D. Price 18*s.* net.

Longmans, Green, and Co., London, New York, Bombay, and Calcutta.

Anatomy, Descriptive and Applied. By Henry Gray, F.R.S., Formerly Fellow of the Royal College of Surgeons, and Lecturer on Anatomy at St. George's Hospital Medical School. Eighteenth Edition. Edited by Robert Howden, M.A., D.Sc., M.B., C.M., Professor of Anatomy in the University of Durham. Notes on Applied Anatomy revised by A. J. Jex-Blake, M.A., M.B., B.Ch., F.R.C.P., and W. Fedde Fedden, M.S., F.R.C.S. Price 32*s.* net.

Murray, John, Albemarle-street, London.

Handbook of Physiology. By W. D. Halliburton, M.D., LL.D., F.R.C.P., F.R.S., Professor of Physiology, King's College, London. Eleventh edition (being the twenty-fourth edition of Kirkes' Physiology). Price 15*s.* net.

Notes, Short Comments, and Answers to Correspondents.

ZANZIBAR AND PEMBA.

IT is stated in the annual report of the British Vice-Consul (Mr. Beak) that the population of the islands of Zanzibar and Pemba was estimated to be on Dec. 30th, 1911, 197,199, made up of 234 Europeans, 8305 Indians and Cingalese, and 188,660 of other races. Births numbered 1567 in 1910, 1814 in 1911, and 1535 in 1912; the deaths were 3534 in 1910, 3330 in 1911, and 4255 in 1912. In connexion with the apparent excess in the number of deaths over births, it is surmised that, although the registration of births is compulsory by law, the natives constantly evade the regulations. It should also be mentioned that during 1912 an outbreak of cholera accounted for 900 deaths. The outbreak in question lasted from August to December. Possibly the cholera, which was of a virulent type, was introduced from Bombay, where the disease was epidemic in May, 1912. Perhaps the most disturbing feature of the population statistics is the rate of infantile mortality, which for the town of Zanzibar was 288 per 1000 in 1910, 162 per 1000 in 1911, and 193 per 1000 in 1912 A great deal of this loss of child life, which is possibly the gravest question facing any African administration to day, is due to ignorance and neglect on the part of mothers, and is consequently preventable. An examination of the death returns shows that the diseases which claim the greatest number of victims are tuberculosis (15 9 per cent. of the total), debility (14 0), malaria (13 3), diarrhœa and dysentery (10 2), bronchitis (7 0), dementia (5 4), and anæmia (5 2). During the last few years, although the number of native deaths from malaria has remained practically stationary (the average monthly number of deaths in 1912 was 14 2, as against 15·08, the average for the last six years), and although mosquito borne diseases are still responsible for 25 per cent. of the total admissions to hospitals, and for 9 per cent. of the total attendances at dispensaries, considerable progress has been made in the sanitation of the town and with the drainage of some swamps and the kerosening of others Consequently there has been a corresponding improvement in the health of Europeans During 1912 a severe outbreak of small pox occurred at Mombassa, but Zanzibar escaped very lightly. This escape may be attributed to the fact that 60,000 of the Zanzibaris had recently been vaccinated.

THE USE OF COLOUR IN BOOKBINDINGS.

To the Editor of THE LANCET.

SIR,—I do not know for certain what are the factors which govern the colour of the binding of any particular scientific work, but *would like to suggest that if it is possible a little* method should be introduced into the choice. If all works of "medicine" could be bound in blue, all those of "surgery" in red, all those of "chemistry" in green, and so on, the arrangement of books and the discovery of information would be much assisted If those in authority in the medical profession met the publishing trade on this matter, surely an innovation which would be a benefit to the busy practitioner and to the librarian, and which would prevent the present riot of colour which is observable to anybody with a moderately sized library, would be introduced. Sometimes it is particularly annoying to have two books on diametrically opposite subjects of the same size and shape, and the same colour binding, as the twins will not always keep in their respective departments. I should like to see this classification applied to books on many other subjects—e g., all French dictionaries of one colour, all German dictionaries of another colour, all Spanish dictionaries of another, and so forth.

I am, Sir, yours faithfully,

London, Sept 24th, 1913. BOUQUINEUR

*** The use of colour as a help to systematic arrangement is unduly neglected, but no rules of the sort suggested by our correspondent would be kept by publishers or authors who placed the value of conspicuousness unduly high What an advertisement for both it would be to be responsible for—say—*the only* mauve biology.—ED L.

SUGAR AS A PRESERVATIVE OF BUTTER

AT the Liverpool police court recently a case was heard in which exporters of butter from Cork were charged upon a summons for selling butter containing cane or beet [illegible] it. Analysis showed that 1 2 per cen[illegible] sample upon which the prosecution w[illegible] the defendants was to the effect that to preserve butter sufficiently for market purposes 6 or 7 per cent. would have to be used. Salt was present in the sample to the extent of 4 per cent, a usual amount, and the defendants stated that they had used sugar to the extent proved for 35 years, and that other traders did the same. It was also stated that sugar was used in French butter and in Danish. The stipendiary magistrate, after discussion, dismissed the summons on the ground that the presence of the sugar used with salt as a preservative was not an infringement of *"the Act of 1887," apparently the Margarine* Act, 1887. We have failed to gather from the report before us the precise offence with which the defendants were charged, but we point out that in the case of offences under the Sale of Food and Drugs Acts, by Section 1, Subsection 7, of the Sale of Food and Drugs Act, 1899, "An article of food shall not be deemed to be adulterated by reason only of the addition of any preservative or colouring matter of such a nature and in such quantity as not to render the article injurious to health." We do not see that any evidence was given as to any injury to health likely to result from about 1 per cent. of added sugar in such an article as butter.

THE PSYCHOLOGY OF "DAMN."

IN a recent article in the *Westminster Gazette* discussing the propriety and frequent use of the word "damn" on the stage the writer *remarks "there can be no doubt about the fact that swearing in some* form gives relief to the feelings and acts in a manner similar to that of a safety valve; it is for the physiologist to tell us why." Explanations are many, but none is simple. The emotion of anger in its varying forms, if at all intense, must find an outlet, and its intensity *is often relieved by being first concentrated and then suddenly* dissipated through weeping, the use of expletives, or in other ways. When an expletive is used it may range from the mild feminine "bother" to some coarse sexual expression on which the theory of Freud may throw light; it is generally a *monosyllable* or a dissyllable with the *accent on the penultimate* and the initial stress strongly pronounced. Just as cramped muscles are relieved by "stretching," so emotion may be relieved by focussing it, so to speak, into a verbal expression the first part of which is uttered with concentrated explosive force. We have heard of a man who, finding the effort of restraint from relieving his feelings before his wife somewhat difficult, discovered with much delight the word "baldañ," which we believe represents the adverb "soon" in a certain artificial language. This innocent word served his purpose equally well with the word "damn," suggesting that it is the sound of the word that is effective rather than the sense. This innocent profaner explained that he was helped by what he called the "sonorous rotundity" of the word, but if the analogy with "stretching" is correct, it is merely an example of the law of action and reaction carried into the field of the emotions and the line of least resistance is taken to bring about relaxation for the pent-up feelings. The particular word used by individuals is probably the result of imitation, and once a word is found useful for the purpose it becomes automatically and habitually adopted. Of course, there are people whose temperaments are such that they have little or no difficulty, whether by nature or training, in suppressing the emotional feeling, but for the many, perhaps the majority of men and women, some form of expletive, if used decently and in order, may be excused occasionally. But however elaborately we explain the psychology of expletives their use is a confession of weakness—this must be remembered.

MEMORIAL TO A MEDICAL MAN.

AN interesting ceremony took place on Sept 21st at Bad-Nauheim, when the monument to Dr. Frederick Bode was unveiled and dedicated to the public by the Kurdirecteur, Colonel von Frankenberg Dr Bode was one of the first to recognise the qualities of the Nauheim waters, and did much by his writings to bring the place prominently before medical men and the public.

MEDICAL AFFAIRS IN SOMALILAND

ACCORDING to the annual report prepared by the Acting Commissioner (Mr. G F. Archer), the estimated population of this British Protec-[illegible]

is chiefly remarkable for its very dry character. In the interior it is healthy, generally speaking, throughout the year, but the same can scarcely be said of the coast belt. Here, during the "kharif"—i.e., the months of July, August, and not infrequently half September—the atmospheric conditions are very trying for Europeans, and the effect on the nervous system is most pronounced Terrific gales of dust-laden wind are then prevalent, and the heat is intense, with the thermometer registering 105°—110° F in the shade at midday, and seldom falling below 100° at night. Most of the sickness, however, occurs during the months immediately preceding and immediately following the "kharif." During the months of November, December, January, and February the *climatic conditions on the coast greatly* improve.

A general hospital is situated at each of the three principal towns—Berbera, Bulhar, and Zeyla. At Berbera there is accommodation for 42 beds, at Bulhar for 4, and at Zeyla for 6. Camp hospitals, constructed of matting huts erected on wooden frameworks, have been in use at each of the towns for meeting an epidemic of small pox. These huts have been added to as requirements have demanded; they answer their purpose very well and [illegible] the wind far better than the tents used formerly. The number of admissions to the hospitals during the past year was 592 and the deaths 12, exclusive of 787 cases, with 236 deaths, from small-pox treated at the small-pox camps. There is a dispensary attached to each of the hospitals, and the attendances during the year totalled 47,658. A small room is available at the hospital at Berbera for the purpose of blood examinations, urine testing, &c. No culture equipment exists, but microscopic sections can be cut and mounted and simple chemical analyses conducted.

INSANITARY HOUSES IN MARYLEBONE.

Mrs. Potter, of Salisbury-street, Lisson-grove, was ordered to abate a nuisance and pay 2 guineas costs at Marylebone police-court recently in respect of seven houses, known as East Cottages, belonging to her. The evidence of Dr. E. F. W. Bywater, deputy medical officer of health, showed that the houses each contained eight small rooms, and were each occupied by four, five, or six families, four or five persons occupying some of the rooms. Roofs and gutters were defective, rain soaked through into the rooms, the drinking-water was contaminated, the windows were defective, rats abounded, and the backyards were receptacles of sewage matter. The whole condition of the seven houses was declared by Dr. Bywater to be dangerous and injurious to health. It is to be hoped that as a sequel to the order which he has been successful in obtaining the disgraceful state of affairs disclosed may be put an end to.

FREE MEDICAL ADVICE AT KHARKOFF.

IN his report for the past year the British Consul (Mr. Blakey) at Kharkoff observes that there was no epidemic, but that infectious diseases were, as usual, chronic. An improvement is expected in two or three years' time when the drainage of the town is complete. Public hospitals are short of funds, overcrowded, and quite unable to cope with their duties. A slight relief will be given by the new workmen's sick fund law, according to which 12,000 workpeople of the town will be treated at the expense of the employers. The town boasts of a number of competent medical men, and it is very usual for them to give advice free to the poor. Unfortunately many patients who are well able to pay take advantage of this and pay nothing. In Russia it is not etiquette for doctors to make charges or send in accounts except for surgical cases. The fee is regarded theoretically as a free-will recognition of good services. The making up of prescriptions and the preparing of compounded drugs are in the hands of apothecaries, who must be distinguished from chemists, and their prices, though fixed by the administration, are high. Chemists are more numerous than apothecaries. Chemists trade in cosmetics, simple drugs, patent medicines, &c. The sale of patent medicines is largely on the increase, partly because of the greater cost of medicines made by doctors' prescriptions and partly through energetic advertising.

MESSRS. E. MERCK'S ANNUAL REPORT.

WE have received a copy of Merck's annual report which records the principal pharmacological advances for the year 1912. The present issue is the twenty-sixth volume of the series, and, like its predecessors, fully maintains its scientific character as a source of reference on the latest pharmaceutical chemistry and therapeutics. The section on Preparations and Drugs is preceded by an excellent account of the chemistry and pharmacology of lecithin. We understand that a limited number of copies is being sent to members of the medical profession on application to the London Office, 66, Crutched Friars, E.C.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced for 1913:—

April 25th–Nov. 5th (Ghent).—International Exhibition.
May 31st to October (London, Earl's Court).—Imperial Services Exhibition.
May–October (Leipzig).—First International Building Exhibition.
June–October (London, Crystal Palace).—Anglo-German Exhibition.
Oct. 1st–Nov. 1st (London, Shepherd's Bush).—National Gas Exhibition.
,, 28th–Nov. 1st (London, Royal Horticultural Hall).—Twenty-fourth Universal Cookery and Food Exhibition.

In 1914:—

April 14th–18th (New York).—Fourth Congress of the International Surgical Society.
May 1st–Nov. 1st (Lyons).—International Town Life Exhibition.
Aug. 3rd–8th (London).—Sixth International Dental Congress.
,, 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.
September (Vienna).—Third International Congress for Diseases of Occupation.
(London).—Anglo-American Exhibition.
(Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
(Auckland, N.Z.).—Australasian Medical Congress.
(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.
(Washington, D.C.).—International Congress of Americanists.
(Paris).—Fourth International Medical Congress on Industrial Accidents.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

THURSDAY.

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert Roberts): at 8 P.M.

Opening Remarks by the President, Dr. W. S. A. Griffith.

Specimen:
Dr. Macnaughton-Jones: Pyosalpinx of Accessory Tube.

Short Communication:
Dr. Macnaughton-Jones: Case of Complete Absence of the Internal Genitalia.

Papers:
Dr. Frances Ivens: Report of 26 Cases of Adnexal Tuberculosis.
Dr. Williamson and Dr. Mackenzie Wallis: The Serum Diagnosis of Pregnancy, with a Demonstration of Apparatus and Methods.

FRIDAY.

SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—Raymond Crawfurd, D'Arcy Power): at 5 P.M.

Professor Morris Jastrow: Babylonian Medicine.

All Members of the Profession, including Students, whether Fellows of the Society or not, are invited to attend this meeting.

CLINICAL SECTION (Hon. Secretaries—W. Essex Wynter, Thomas H. Kellock): at 8.30 P.M.

Dr. J. D. Rolleston: Case Illustrating Local Treatment of Vincent's Angina by Salvarsan.

And other Cases.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. Davis: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. Langmead: Some Points in the Treatment of Goitre.

TUESDAY.—4 P.M., Dr. E. Pritchard: Clinique (Medical). 5.15 P.M., Lecture:—Mr. F. A. Juler: Squints.

WEDNESDAY.—4 P.M., Mr. H. A. T. Fairbank: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. Sommerville: Gastro-intestinal Maladies and Skin Diseases.

THURSDAY.—4 P.M., Dr. E. Wynter: Clinique (Medical). 5.15 P.M., Lecture:—Dr. A. Latham: Malignant Diseases of the Lung.

FRIDAY.—4 P.M., Dr. D. MacKenzie: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. H. C. Miller: Clinical Psychology—2. The Scope and Limitations of Psychic Treatment.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine.

Dr. F. Lang-
Mr. R. B.
Mr. Choyce:
3.15 P.M.,
C. Choyce:
Surgery.

THURSDAY.—Out-patient
Medical. Mr. H. C
Throat, Nose, and

A.M., Dr. G. Holmes:
Dr. H. MacCormac:
ations. 2.15 P.M., Sir
M., Mr. L. McGavin:
Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——10 A.M., Col. Harry: Radiography.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY AND FRIDAY.—3 30 P.M., Clinical Lectures:—Dr. G. Holmes: Regional Diagnosis.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. W. Griffith: Parasitology of the Skin.
THURSDAY.—6 P.M., Dr. M. Dockrell: Essentials, Clinical and Pathological, to the Diagnosis of Diseases of the Skin.

MANCHESTER ROYAL INFIRMARY (MANCHESTER HOSPITALS POST-GRADUATE CLINICS).

WEDNESDAY.—4.30 P.M., Dr. G. R. Murray: Chronic Infective Endocarditis.

ANCOATS HOSPITAL (MANCHESTER HOSPITALS POST GRADUATE CLINICS).

THURSDAY.—4.30 P.M., Dr E. B. Leech: Liver Cirrhosis.

MANCHESTER ROYAL EYE HOSPITAL (MANCHESTER HOSPITALS POST-GRADUATE CLINICS).

FRIDAY.—4 30 P.M., Dr. J. G. Clegg: Subjective Tests for Visual Acuity.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

For further particulars of the above Lectures, &c., see Advertisement Pages.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 1st, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain-fall	Solar Radio in Vacuo.	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks.
Sept. 25	29 93	E.	...	109	74	57	58	60	Cloudy
„ 26	30 02	E.	...	109	77	60	61	63	Overcast
„ 27	29·93	S.	...	115	79	63	62	64	Fine
„ 28	30 02	E.	...	104	70	55	57	61	Fine
„ 29	30 05	E.	...	103	71	55	58	59	Fine
„ 30	29 95	N.E.	...	105	70	56	58	58	Overcast
Oct. 1	29 87	N.E.	...	93	64	56	58	59	Cloudy

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial Staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1913, which was completed with the issue of June 28th, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1913 are now ready. Bound i carriage extra.

Cases ers are also ready. Cloth, g *d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do *not* reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

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One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rates of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. *CHARLES GOOD, THE LANCET* Offices, 423, Strand, London, W.C.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—Messrs. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

The following journals, magazines, &c., have been received:—*American Post-Graduate, Albany Medical Annals, Archives of Internal Medicine, Bristol Medico-Chirurgical Journal, Indian Medical Gazette, Journal of Tropical Medicine and Hygiene, British Journal of Children's Diseases, Patrician, Revue de Gynécologie, American Journal of Tropical Diseases and Preventive Medicine, Quinzaine Thérapeutique, Journal of Nervous and Mental Disease, Interstate Medical Journal, Journal d'Urologie, Archiv für Experimentelle Pathologie und Pharmakologie, Tropical Diseases Bulletin, Journal of State Medicine, Ophthalmoscope, Review of Neurology and Psychiatry, &c.*

Communications, Letters, &c., have been received from—

A.—Ardath Tobacco Co., Lond.; Messrs. Allen and Hanburys, Lond.; Apollinaris Co., Lond.; Dr. Edward von Adelung, Oakland, California; Argyle and Bute Asylum, Lochgilphead, Secretary of; Anglo-American Pharmaceutical Co., Lond.; *The Abolitionist*, Lond.

B.—Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. Bale, Sons, and Danielsson, Lond.; Bristol General Hospital, Secretary of; Mr. F. E. Beddard, Lond.; Bad Nauheim Municipal Enquiry Office, Lond.; Messrs. Bruce, Green, and Co., Lond.; Messrs. Butterworth and Co., Lond.; Mr. S. L. Bhatia, Cambridge; Messrs. Benger's Food, Manchester; British Oxygen Co., Lond.; Messrs. T. B. Browne, Lond.; *Blackburn Times*, Manager of; Bristol Royal Hospital, Secretary of; Mr. Victor Bonney, Lond.; Mrs. Cloudesley Brereton, Lond.; Messrs. Baillière, Tindall, and Cox, Lond.; Messrs. Boulton and Paul, Norwich; Beckett Hospital, Barnsley, Secretary of; Messrs. A. Burbidge and Co., Lond.; Miss Alice Browne, Lond.

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D.—Mr. A. J. D'Souza, Lond.; Professor Delépine, Manchester; Mr. Edward D. Davis, Lond.; Mr. R. Dunstan, Paignton.

E.—Dr. A. M. Elliot, Lond.; Lieutenant-Colonel R. H. Elliot, I.M.S., Lond.

F.—Messrs. Ferris and Co., Bristol; Dr. W. H. Fitzgerald, Hartford, Conn.; Messrs. Fairchild Bros. and Foster, Lond.; *Farm and Home*, Lond., Editor of; Mr. T. R Freeman, Monkton Combe; Dr. J. B. Farmer, Gerrard's Cross.

G.—Mr. Cecil Graham, Lond.; General Medical Council, Lond., Registrar of; Goodwyn Institute, Memphis, Librarian to the; Guardian Assurance Co., Lond.; Mr. H. S. Gettings, Wakefield; Messrs. Gordon and Gotch, Lond.

H.—Mr. C. R. Haines, Godalming; Dr. Æneas Henderson, Southport; Messrs. C. J. Hewlett and Son, Lond.; Harrogate Hydropathic Co., Manager of; Messrs. Hoskins and Sewell, Birmingham; Sir John P. Hewett, Elgin; Mr. W. H. Hey, Manchester; Mr. T. Harling, Blackburn; Mr. C. W. Hutt, Brighton; Mr. John Howell, Cheltenham; Dr. William Hunter, Lond.; H. B. L.; Harveian Society of London, Secretary of; The Hutcharm Co., Victoria, B.C.; Hospital for Sick Children, Newcastle-on-Tyne, Secretary of; Hereford County and City Asylum, Burghill, Clerk to the; Miss E. M. Homersham, Lond.; Mr. Charles T. W. Hirsch, Woolwich.

I.—International Plasmon, Ltd., Lond.; *Indian Medical Record*, Calcutta.

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Hunterian Lecture

ON

FEVER IN PULMONARY TUBERCULOSIS:

ITS SIGNIFICANCE AND THERAPEUTICAL INDICATIONS.

Delivered before the Hunterian Society on Oct. 6th, 1913,

BY FRANK J. WETHERED, M.D. LOND.,
F.R.C.P. LOND.,

PHYSICIAN TO THE MIDDLESEX HOSPITAL; PHYSICIAN TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

IN the first place I have to thank you, Sir, as President, and the council of this society for the honour you have done me in asking me to deliver this lecture. When your secretary, Dr. O. K. Williamson, conveyed your invitation to me, he suggested that I should choose a subject which had a distinctly clinical bearing. I warmly accepted the suggestion, so that I shall only touch very briefly on theoretical considerations, and shall make my observations of as practical a character as possible.

The subject of pulmonary tuberculosis has during the last few years attracted much notice from medical practitioners and laymen. Attention has been mainly concentrated on the afebrile cases, as these naturally yield better results, whatever the form of treatment that may be adopted. Consideration of febrile cases has not been so fully entered into, and I have therefore selected as my subject Fever in Pulmonary Tuberculosis: its Significance and Therapeutical Indications. I shall place a liberal interpretation on the word "fever," taking it to mean any rise of temperature. My endeavour will be to place before you the deductions which may be drawn from a study of the temperature chart from the points of view of diagnosis, prognosis, and treatment.

THE CAUSE OF THE FEVER IN PULMONARY TUBERCULOSIS.

The cause of the fever in this disease has led to much discussion. Fever has been described as a disturbance in the relationship between heat production and heat dissipation, and in pulmonary tuberculosis the balance is very easily disturbed. The tubercle bacilli themselves or their products are thrown into the blood stream, usually resulting in increase in body temperature. Some observers, as Dr. F. M. Pottinger, consider fever to be a result of the protective reaction of the body cells in response to the formation of chemical substances, probably the products of autolysis (albumoses). This question I do not propose to dwell upon this evening.

The occurrence of auto-inoculation, to which I shall refer later, has also given rise to differences of opinion. In certain cases of pulmonary tuberculosis, exertion, physical or mental, but especially the former, is followed by a rise of temperature [illegible] r symptoms, such as [illegible] nce is forthcoming to [illegible] of bacteria or their products from the disease foci, and uncontrolled bad effects may follow, as after an excessive dose of tuberculin; on the other hand, good results may ensue, corresponding to the administration of an appropriate dose of tuberculin, leading to the conclusion that an auto-inoculation results from the production of a substance similar to tuberculin and possessing similar properties.

The products of organisms other than tubercle bacilli have been supposed to be responsible for the temperature in some cases of pulmonary tuberculosis; in other words, that a secondary or even mixed infection exists. Some observers have maintained that the temperature chart would indicate when such an infection is present, but I do not believe such is the case. Dr. A. C. Inman,[1] superintendent of the Brompton Laboratories, carried out a valuable research for the Local Government Board, and showed that from the temperature chart alone the presence or absence of a secondary infection could not be determined. Moreover, because micro organisms are found in the sputum in addition to those of tubercle, it does not follow that they play any part in the pathological process that is proceeding. Dr. Inman demonstrated by means of the opsonic index that in many cases, although several varieties of micro-organisms were present, the indices to some of them were normal, thus showing that there was no evidence of infectivity in respect to those particular microbes. The conclusion generally arrived at is that although undoubtedly existing in certain stages of the disease secondary infections have much less effect on the course of the disease than was at one time supposed. Tuberculosis of the lungs is essentially an infection by the tubercle bacillus.

THE SIGNIFICANCE OF THE TEMPERATURE CURVE.

I now turn to more clinical details. I would first observe that throughout this lecture, when I speak about temperature, I refer to the mouth temperature, which for clinical purposes I have found perfectly satisfactory. Attempts have been made to classify the temperature curves occurring in pulmonary tuberculosis on a rather too definite basis, but although certain types may be described, yet there is no curve characteristic of the disease. On looking at the temperature chart of a case of typhoid fever, or croupous pneumonia, the nature of the disease can be fairly easily surmised, but such is not the case with tuberculosis of the lungs. Speaking generally, a raised temperature is a sign of activity, provided that it is continuous. It may be continually above the normal, or there may be rises late in the day only, and the higher and more sustained the curve the greater are the active processes going on in the lungs. The reverse, however, does not hold good, and activity may be accompanied by a low or normal temperature; the prognosis in such patients is almost invariably bad; this phenomenon usually indicates a lack of power of response on the part of the body. This low temperature is occasionally seen after a period of fever, and unless this fact be remembered false hopes of improvement may be raised, for the fall may mean that the fatal ending is approaching

Further, I would like to point out that the temperature is no guide to the stage of the disease, using the word stage in reference to pathological changes. There may be only a comparatively small area of lung affected and very slight physical signs over the lung, yet the temperature is high and shows large daily variations. In some such instances the disease may run a downward course throughout, finally ending in death, the destruction of lung tissue rapidly proceeding. I think such cases are most common in young female subjects from about 18 to 25 years old. On the other hand, extensive lesions may be present in the lungs, cavity formation being well marked, yet the temperature be of a favourable type. In these cases excessive auto-inoculation is not proceeding, although the disease is advanced from a pathological point of view. The immediate prognosis is by no means necessarily bad, and many patients show marked improvement under treatment, and are even able to return to work. These cases demonstrate in a marked manner that in order to form a definite and accurate opinion of a case it is absolutely necessary to study and observe every aspect of the case over some period of time; symptoms, temperature chart, and physical signs must all be considered together and in relation to each other, for to base a diagnosis or prognosis on one aspect only will assuredly lead to error.

Types of Curve in Acute Cases.

There are two types of fever indicative of acute disease which are common, and to which I should like to draw your attention. Before describing these I would first remind you of the variations which occur in the temperature chart of healthy individuals; 98·4° F. is accepted as the normal, but, needless to say, this point does not prevail during the whole 24 hours. There is a daily variation of from a degree to a degree and a half, being lowest in the early morning, and generally highest in the afternoon. It is the amount of variation in the temperature chart of a patient suffering from pulmonary tuberculosis to which I wish to draw your attention; and the observation of this swing yields useful information whatever may be the actual height of the temperature.

In a case of active pulmonary tuberculosis of moderate severity we sometimes find that the temperature is sustained above the normal (Fig. 1); that is to say, the morning temperature is raised as well as that of the afternoon and evening, but the daily variation is not greater than in the normal curve. Under suitable treatment the fever often subsides, and the disease follows a favourable course. In the majority of these cases the disease is limited in extent, and there is but little softening of the lung tissue. In the second type the temperature is again sustained at a high level, but the daily range is greater than in a normal curve, perhaps two to two and a half degrees of oscillation (Fig. 2). On examination of the patient there will then be found indications that softening and excavation are proceeding. As a rule the larger the extent of lung involved the greater becomes the swing of the temperature; the record may become low in the morning and high later in the day, rising as high as 104° or 105°. Severe clinical symptoms often accompany this type of fever, indicating profound intoxication brought about by the absorption of toxic matters—chilliness, amounting to rigors, aching in the limbs, digestive disturbances, and great weakness. The aspect of the patient is also characteristic—marked flushing of the cheeks and a general lassitude and rapid breathing, which at once attracts attention. The second of these types is the more common, but a combination of the two types occurs more frequently than either alone. Similar to this curve is the one sometimes alleged to indicate the existence of a mixed infection. I have already referred to this subject and stated the reasons for the opinion that no evidence of such an infection can be drawn from the temperature curve.

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[1] THE LANCET, April 13th, 1912, p. 975, et seq.

Other Types of Temperature Chart.

The temperature chart of a slightly active case of pulmonary tuberculosis is very different. (Fig. 3.) The temperature is only slightly raised, and there may be periods in which the curve is almost normal. Nevertheless, at intervals the swing is greater than the normal. In many cases, although the temperature never rises above the normal, yet the daily variation is 2° or more. It will be found that patients with this type of curve often make but slow progress, and great care has to be observed with regard to the daily amount of exercise. This lability and irregularity of the temperature curve is one of the most important early evidences of tuberculosis of the lungs.

There are two other types of curve which are worthy of notice. In the one, the temperature is raised a degree or a degree and a half every afternoon or evening (Fig. 4), becoming normal in the morning. In the other a larger swing is noticed (Fig. 5), the rise later in the day being over 100° F., reaching the normal again in the morning. The immediate prognosis in the former is usually fair; in the latter it is not so good, but the second type may gradually assume that of the first, indicating improvement in the patient's condition.

Another interesting type of curve is that of constant variations in temperature following upon increasing exertion. (Fig. 6.) The patient, perhaps, has been kept in bed until the temperature has become normal. Then he is allowed up for a couple of hours and a rise of temperature occurs. It may fall in 24 hours. Another rise is often seen when the patient is allowed up for four hours, again when six hours are permitted, and so on. Further, the excitement and incidental exertion of a visiting day, or the physical examination by the physician may be similarly indicated. In some cases, however, a fall does not take place in 24 hours, and a febrile temperature persists for some time—perhaps as long as three weeks or more—before a favourable curve again appears. A similar rise of temperature may occur after extraction of teeth or some unusual exertion, such as playing the piano. It is striking that the exciting causes are nearly always associated with some form of bodily exertion.

Whilst discussing pulmonary disease associated with high temperature of long duration, I would point out what may lead to diagnostic error—namely, that malignant disease of the lung may be accompanied with fever. (Fig. 7.) During part of the course of malignant disease of the lung the differential diagnosis may be by no means easy. Naturally, if tubercle bacilli are found in the sputum the diagnosis becomes evident. If the cutaneous or other tuberculin test be employed. further confusion may arise if a positive reaction is obtained, for this simply means that the individual has had a tuberculous infection, but it does not prove that the lung trouble is of a tuberculous nature. The true nature of the disease can often not be definitely diagnosed until a late stage, when enlarged glands in the neck or external tumour reveal the real nature of the malady. I need hardly remind you that there are other conditions, such as bronchiectasis, fœtid bronchitis, and so on, all of which may be associated with fever and need careful differential diagnosis from pulmonary tuberculosis.

The inverted type of temperature, the morning point being higher than the evening, is usually to be regarded as of serious import, although the curve need not be high. A case illustrative of this was that of a girl, aged 19, who apparently made good progress in the Brompton Hospital. She gained weight and her temperature was never above 99°, but it was of the inverted type. She was sent to the sanatorium at Frimley, but it was found useless to keep her there, as the slighest amount of exercise caused auto-inoculation which could not be controlled. Her subsequent progress was unsatisfactory.

Precautions necessary to ascertain the True Temperature.

In order that the true temperature occasioned by the disease may be ascertained certain precautions must be observed. Some of these will at once suggest themselves. A little time should be allowed to elapse after a meal, especially if the temperature is to be taken in the mouth. A slight rise is fairly common after a meal, and an interval of at least half an hour should therefore be insisted on. Again, the temperature should never be taken until an hour after exercise. In normal individuals an appreciable rise frequently takes place after exercise, but quickly subsides; the same events will occur in tuberculous cases, provided that excessive auto-inoculation has not taken place; if such has happened the temperature may remain raised for some hours or days. Further precautions are necessary in the case of patients who are able to take baths, whether hot or cold, sufficient time being allowed for the regulation of the subsequent change of temperature. The time of year also may have an influence, especially in debilitated and wasted patients, the temperature being depressed in cold weather and raised in hot. This, of course, particularly applies to mouth temperatures.

Another matter to which I wish to refer is a rise of temperature that sometimes precedes or accompanies the menstrual period. (*Fig. 8.*) *The rise may amount to several* degrees. Occasionally cough and other symptoms may become more pronounced during this time. Unless this periodical fever is recognised, a false idea of the temperature curve may be obtained. Especially is this likely to occur when tuberculin is given for diagnostic or therapeutical purposes. If a dose should be given shortly before the period the natural rise may be mistaken for a tuberculin reaction.

Amongst other conditions which may cause temporary rises of temperature in tuberculous subjects, apart from the course of the disease, are the occurrence of an ordinary "cold," probably the result of an infection by one of the catarrhal organisms, and an attack of gout. This affection, however, is rare in patients suffering from tubercle of the lung. The occurrence of hæmoptysis is often followed by fever, and this may be of important prognostic value. If the rise only lasts a few days no undue anxiety need be felt, but if the fever persists it may mean a very serious condition—namely, the rapid spread of the tuberculous process in the form of miliary tuberculosis, which proves rapidly fatal. (Fig. 10.)

THERAPEUTIC INDICATIONS.

Having pointed out some of the conclusions which may be arrived at from a study of the temperature curve in relation to diagnosis and prognosis in cases of pulmonary tuberculosis, I now wish to offer a few remarks as regards the therapeutic indications which may be derived from the same source. When the temperature is high, and especially if it continues for a long period, there is a natural desire to try to artificially reduce it, but whether this is always a wise proceeding is open to doubt. The most favourable temperature for the growth of the tubercle bacillus is about the normal temperature of the body, and it is possible that the existence of fever may to some extent prevent, or at any rate inhibit, the multiplication and activity of the organisms. Moreover, it has also been maintained that phagocytosis is more active, and the other defensive properties of the blood more developed, when a moderate degree of fever is present. Unless, therefore, a [illegible] maintained for some time active attempts [illegible] the temperature are not called for. But the prolongation of fever must be a strain

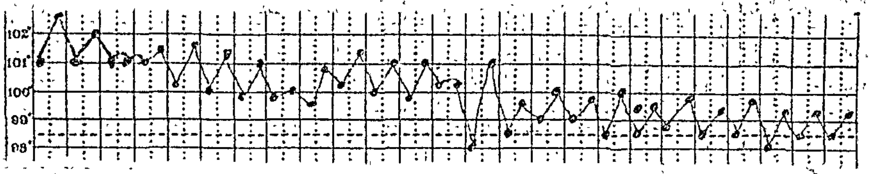

FIG. 1.—Showing sustained temperature with small oscillations. Early lesions at both apices. Patient made good progress.

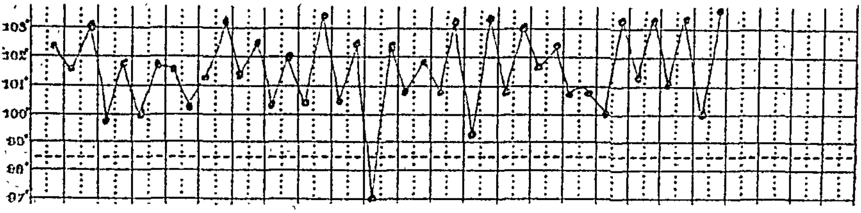

FIG. 2.—Sustained temperature with large oscillations. Active lesions in both lungs. Disease ran an unfavourable course.

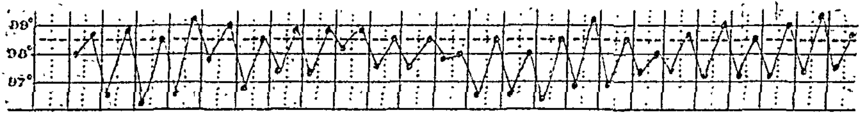

FIG. 3.—Slight activity. Infiltration of both lobes of left lung. No improvement manifested. Patient was not able to take active exercise.

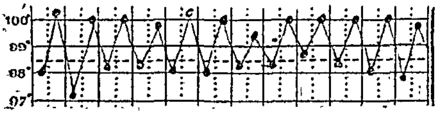

FIG. 4.—Sho
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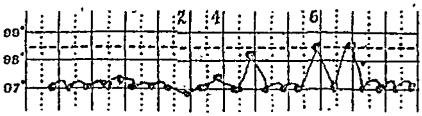
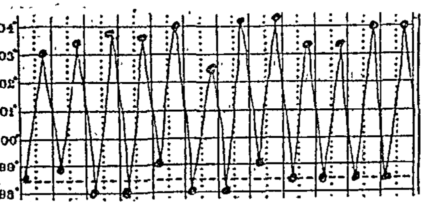


FIG. 6.—Illustrating auto-inoculation. The patient had a limited area of infiltration at the left apex. The figures refer to the number of hours out of bed.



F nperature falling each morning both lobes of left lung and Unfavourable course of disease.

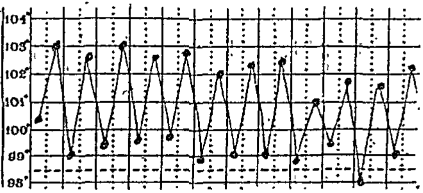


FIG. 7.—Chart of a case of sarcoma of lung.

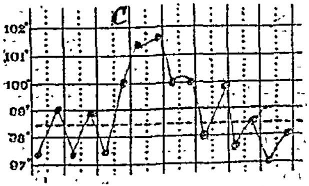


FIG. 8.—Showing rise of temperature during the menstrual period. Menstruation commenced on the day marked C. Patient had advanced lesions in upper lobe of both lungs.

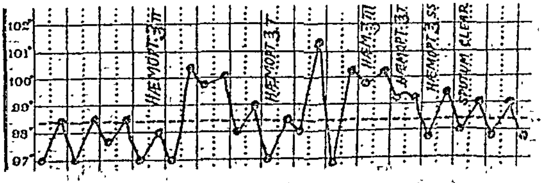


FIG. 9.—Effect of hæmoptysis on temperature. The patient had slight infiltration of the apex of the upper lobe of the right lung.

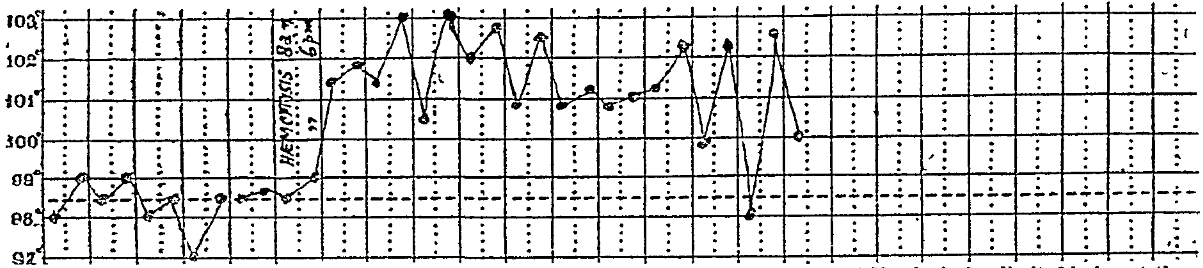


FIG. [illegible] berculosis of lungs. The patient was a man, aged 22, who had a limited lesion at the ape [illegible] e was progressing favourably and able to go out into the garden. An attack of hæmopty [illegible] the lungs which proved fatal in ten days.

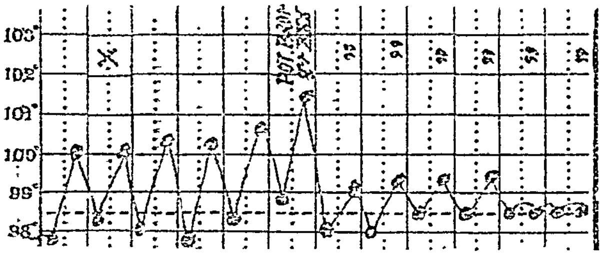


FIG. 11.—Effect of potassium bromide on the temperature in a neurotic patient. There was limited infiltration at the right apex.

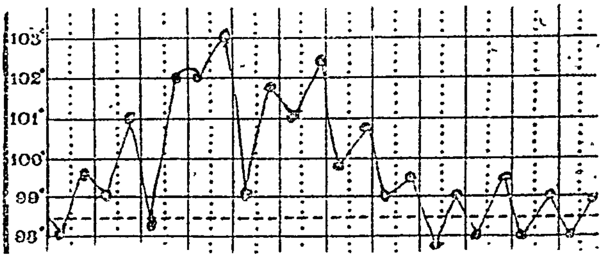


FIG. 12.—Showing the effect on temperature of rest. The patient had excavation in the upper lobe of both lungs.

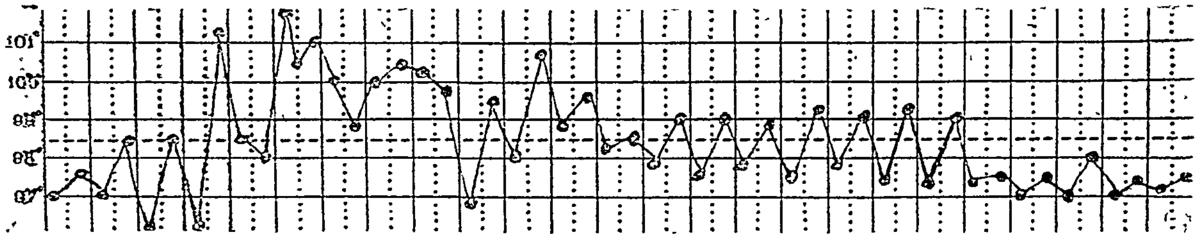


FIG. 13.—Showing patient on work which caused large auto inoculation. He was sent to bed but not treated on the lines of complete immobilisation. Temperature did not settle for a considerable time. (From Dr. M. Paterson's work on Auto-inoculation in Pulmonary Tuberculosis.)

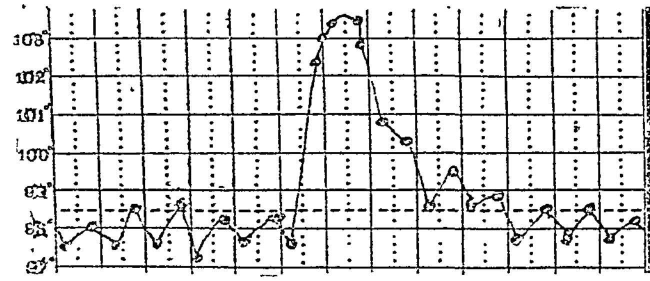


FIG. 14.—Chart of a patient at work which caused large auto-inoculation. He was placed on complete immobilisation and returned to work within ten days. (From Dr. M. Paterson's work.)

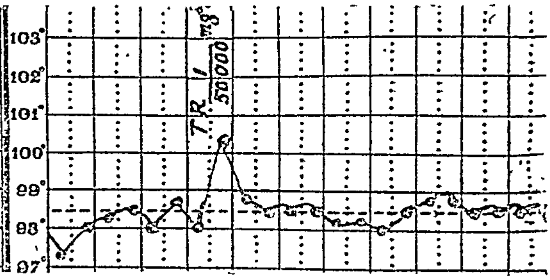


FIG. 15.—Showing febrile response to small doses of tuberculin followed by flattening of the curve. Patient had limited infiltration at right apex.

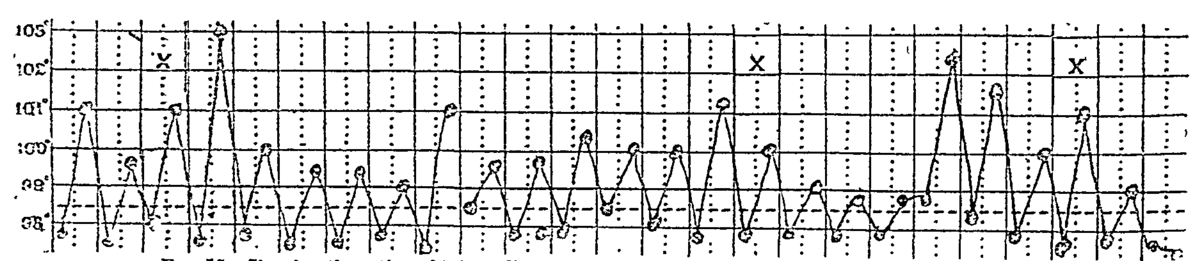


FIG. 16.—Showing the action of tuberculin in a febrile case. X marks injection of T.R. 1/200,000 mg.

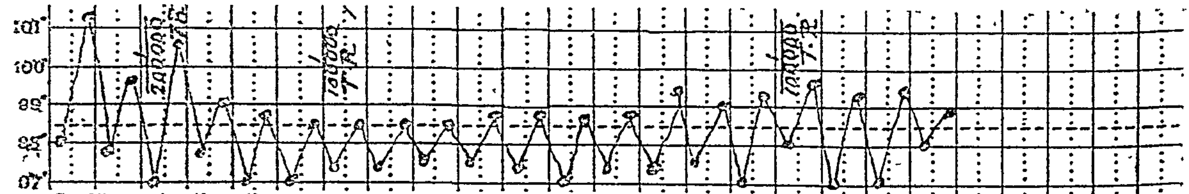


FIG. 17.—Illustrating the action of tuberculin in controlling auto-inoculation. The patient had a limited area of infiltration at the right apex. He was kept at rest until his temperature became normal and then allowed up for two hours and sustained a severe auto-inoculation. The irregular temperature lasted 14 days, the last three days of which are shown. Tuberculin was then given, and after successive doses the temperature became normal. He was ultimately able to be up all day and made good progress.

on the patient's strength, and therefore in some circumstances it may be desirable to try to lower the fever. Many drugs having antipyretic properties have been suggested. In the course of years I have made trial of several, but success has not been great.

The drug to be preferred, according to my experience, is pyramidon; it is claimed to be an amido derivative *of antipyrin. The dose is from* 5 to 8 grains, but patients tolerate the drug differently and respond to it in a varying manner. In some instances 5 grains given in cachets at night have proved sufficient, whilst in others 5 grains three times a day have been required. As a rule the drug is well borne, and depression has only occasionally occurred. In some cases excessive perspirations were noted. With cryogenin I have had no success. It *may be given in doses* of 7 to 10 grains in cachets about three hours before the maximum daily temperature is reached. I have not found the smaller doses produce much effect, while the larger ones have been attended by profound depression. *Phenacetin* and antipyrin I have not given in recent years, although some time ago I tried phenacetin fairly often, but the depression outweighed any advantages the temporary lowering of the temperature might have had. I believe, however, most physicians will agree in the opinion that in the majority of cases antipyretic drugs are not to be recommended. In some patients who are of a strongly neurotic disposition the temperature is very easily affected, and the curve may be irregular, even although the individual is kept at rest as far as possible in bed; under these circumstances the administration of bromides will be found efficacious. (Fig. 11.)

The Value of Rest in Febrile Cases.

A very different agent and far more reliable is rest. The importance of keeping a patient at rest during the active stage of the disease cannot be over-estimated. By this means auto-inoculation may be checked, and thus bacteria and their products are not thrown into the circulation. The period during which rest must be enforced naturally varies with individual cases. Sometimes a short period suffices (Fig. 12), but frequently some weeks or even months may be required. Under the latter circumstances great perseverance is necessary on the part of the patient, but experience shows the reward which follows patience and fortitude. Even apparently hopeless cases after a long period of rest begin to show *improvement, but unfortunately, on the other hand,* in spite of all care and patience, many cases pursue an unfavourable course from the outset. Rest should be insisted on until, in men, the temperature does not rise above 99° in the 24 hours; in women 99·2°, or even 99·4°, may be allowed. When the curve has maintained this level for four to six days, the patient may be allowed to get up for two hours and sit in a chair, and then the next day he can try moving about his room, the rest of the day being spent on a couch instead of in bed. If the circumstances of the patient permit it, he can be carried into the open air or lie on a couch, properly protected from cold, in front of the window. The time for getting up and the amount of exercise are then gradually extended, careful watch being kept on the temperature chart for any undue rise.

In cases which do not respond to these measures, and in which the patient has been allowed to sit up in bed and perform certain acts for himself, such as washing, writing, and so on, "absolute" rest may be tried. The patient is then treated as though he were suffering from typhoid fever, with the exception, of course, of the diet. He must not be permitted to do anything for himself; he must lie "like a log." He must be fed by the nurse, and must not make any voluntary effort whatsoever. The bed-pan, of course, must be used, and the patient is sponged down and must not wash himself. The visits of friends must be discouraged, *and he should talk as little as possible. The beneficial effect* of this treatment is especially marked when there has been severe auto-inoculation. Dr. Marcus Paterson who was for some years medical superintendent at the Brompton Hospital Sanatorium at *Frimley*, and who elaborated the "graduated labour treatment" for pulmonary tuberculosis, found in the early days of his administration that when a patient exceeded the instructions that were given him, he occasionally received a severe auto inoculation the effects of which lasted from two to three weeks. These effects were fever (Fig. 13), headache, loss of appetite, and sometimes pain in the side. The temperature was frequently raised for the length of time I have stated and subsequently some little time elapsed before the patient could again engage in the "grade" of labour at which he broke down. If, however, on the appearance of the symptoms the patient was placed on "absolute" rest, the temperature and the other symptoms subsided in a much shorter time (Fig. 14), and he could be speedily restored to the former grade of work. The return to the ordinary movements of everyday life has to be carefully supervised; in fact, as Dr. Paterson has himself expressed it, there must be graduated rest as well as graduated labour.

From my own experience I have *not* found absolute rest so successful when I have applied it to progressive cases with persistent fever, although I have frequently prescribed it. The fact that uncontrolled auto-inoculations have been occurring continuously and that the pathological process is actively extending explain the difference in the action of this measure in the two classes of cases. The diet during "absolute rest" should be given in as convenient a form as possible, as the patient ought to be fed, but "slop" diet is *not necessary. Solid* food may *still* be given unless symptoms of indigestion manifest themselves.

To secure the required rest drugs may sometimes be of assistance. It will be found that patients who have a very severe cough often exhibit a raised temperature. The effort of coughing, especially if prolonged for a considerable time, naturally entails considerable physical exertion, with the result that auto-inoculation follows. If a sedative cough mixture be given, so that the patient is able to obtain actual rest, then a more favourable temperature may be obtained. For the relief of these severe paroxysms of coughing I have found the linctus sedativus of the Brompton Hospital Pharmacopœia as efficacious as any preparation. The composition is: *Liquoris morphinæ acetatis, min.* viii.; ætheris chlorici, min. iii.; succi limonis, min. xv.; mucilaginem acaciæ ad fl. drm. i. One drachm to be taken when the cough is severe. Codeina or omnopon may also be tried, but I have not found them superior to the morphia preparation. Sponging with tepid water may be tried, but it only gives very temporary relief.

The Administration and Dosage of Tuberculin in Febrile Cases.

When rest and the ordinary drugs fail are there other methods at our disposal? Can tuberculin help us under the circumstances? Some authorities maintain that fever is a direct contraindication to the use of this remedy. I cannot support this view in its entirety. I would rather say that fever is an indication for the most careful administration of tuberculin, but does not absolutely forbid its employment. When treating afebrile cases with tuberculin it is difficult to form any definite criterion as to its effect; we may observe the reactions, but the actual effect on the course of the disease cannot easily be determined. In order to arrive at an absolute conclusion a large number of cases must be dealt with and must be watched for at least five to seven years. *Pulmonary tuberculosis is a disease* which tends to self-arrest; a large number of patients who are afebrile show improvement under ordinary routine treatment, and it is difficult to prove, because a case of this kind becomes better *under* the use of *a* certain *remedy, that therefore the* improvement is due to the action of that remedy. In judging of the progress of those afebrile cases treated with tuberculin, a further difficulty or source of error is added—namely, failing to distinguish between a tuberculin and a tuberculosis immunity. With febrile cases, however, the circumstances are rather different, for the effect of a remedy is more speedily apparent. For some years I have largely confined myself to the use of tuberculin in febrile cases, and I have met with a certain amount of success, and with the doses I employ I have never found any ill effects follow. When *I first* used the *remedy* on patients who had a raised temperature I allowed the patients to remain from three to six weeks in the wards in order to ascertain whether rest and the ordinary methods of treatment would produce good *effects. Under the term "ordinary* methods" I of course include life as far as possible in the open air or well-[illegible] If at the [illegible] ot become [illegible] *need.*

The choice of the particular preparation to be used naturally requires care. Some of the patients had fairly extensive lesions, and it was important, therefore, to employ a tuberculin and in such doses which, whilst exerting an immunising action, would not produce a focal reaction. Koch's old tuberculin (O.T.) or perlsucht tuberculin (P.T.O.) would not be suitable, as they produce such a reaction; tuberculin residue (T.R.) or bacillary emulsion (B.E.) can bring about an immunising effect when given in small doses without focal reaction. I therefore invariably employ one of the two last named, and have obtained similar results with each, but if I have any predilection it is in favour of B.E.

The dose that should be employed in febrile cases must be extremely small. My usual initial dose is 1/100,000th mg.; sometimes 1/200,000th mg. After a dose is given a few days should be allowed to elapse in order to ascertain whether any result follows. If the temperature chart indicates no change after five to seven days the same dose is repeated. If there is then no change, or if no febrile reaction follows, a dose of 1/50,000th mg. should be administered, and another interval of five days allowed to pass; if there is no change another dose of 1/50,000th mg. is given. The same procedure is repeated with 1/25,000th mg. and 1/20,000th mg. If no lowering of the temperature is achieved by these means, or, in other words, if the same grade and type of fever continue, I think it is better not to proceed with the tuberculin.

If after the initial dose a rise of temperature occurs, the dose should not be increased; in fact, it is advisable to lower it. It is not usual to obtain a febrile reaction with such small doses, but that reactions do occur occasionally under these circumstances is shown by the accompanying chart. (Fig. 15.) If, however, after the initial dose there is a fall of temperature or flattening of the curve, another dose should not be given until the temperature begins to swing again. The interval then required between the doses varies, the principle being not to give another dose until the effect of the former one has passed off; this is shown by the temperature beginning to oscillate. The dose is then increased, and again the variation in the temperature is noted, giving a third and increased dose when a renewed swing takes place. With regard to the sequence in the strength of the doses of tuberculin it is better to feel one's way carefully in the febrile cases, treating each patient in regard to the clinical state, the manner in which there is any or no response to the injections, and regulating the doses and intervals between the doses accordingly. At the same time the pulse must be noted, undue frequency necessitating a smaller dose and slower progress. The manner in which tuberculin acts in febrile cases is shown in the accompanying chart. (Fig. 16.) I am strongly in favour of avoiding febrile reactions if possible. The response I prefer to see is a flattening of the curve. (Fig. 15.)

Results of Tuberculin Treatment.

The results I have obtained with the use of tuberculin in febrile cases have varied considerably, but I can say that I have not found these minute doses productive of any harm, and the conclusion I have arrived at is, that when the temperature does not fall after a rest of some weeks under favourable surroundings tuberculin may be administered in the manner I have indicated, and in some instances it will be found efficacious in reducing the fever and in effecting general improvement. To express the matter in other words, the administration of tuberculin occasionally appears to produce an immunising effect sufficiently strong to turn the unfavourable course of the disease into a more favourable one. I am afraid the number of cases in which success is obtained is not large, but nevertheless I do consider that it is a remedy which is well worth giving when other measures have failed, provided that there are no direct contra-indications. If the patient is obviously exhausted by extensive lesions of the lungs, or if there is evidence of rapid disintegration of lung tissues, it is evidently useless to try to obtain an immunising response. The pathological condition is such as to forbid any such treatment. Also, if the type of temperature and physical signs point to miliary tuberculosis (Fig. 10), tuberculin must not be administered.

In some of the cases of pulmonary tuberculosis the effect of the tuberculin is different; it acts as an antipyretic, but has no effect on the course of the disease. The temperature is lowered and a tonic effect is produced, the patient feeling better after each injection, but the progress of the pathological processes is not checked. The length of time that the antipyretic action is continued varies, but it is usually short; nevertheless, it is well to give the remedy on account of the temporary relief which it affords to the patient.

The class of febrile cases in which tuberculin yields the most satisfactory results is that in which the patient is free from fever whilst at rest, but in which a rise of temperature occurs when exercise is taken. This may otherwise be expressed by saying that whilst the patient is at rest no auto-inoculation takes place, but when he gets up and attempts to walk, then auto-inoculation does occur. Tuberculin given in small doses apparently renders him immune to any dose of toxin which he himself can manufacture. I show the chart (Fig. 17) of a case of this nature which well illustrates the beneficial action of tuberculin. By persevering with the treatment a patient, who at first could not be up for two hours without a severe auto-inoculation, is able to be up without fever. Tuberculin has now accomplished its object, and the case may be treated as an afebrile one. The procedure to be adopted is similar to that just described in the case of persistently raised temperature, the initial dose being usually 1/100,000th mg. B.E. The same reduction of temperature sometimes occurs as a result of subjecting the patient to suitable slight movement, such as allowing him to get up for two hours. The explanation of this apparently anomalous phenomenon is the same as applies to the action of tuberculin in febrile cases.

The question of mixed infection has already been discussed, and the idea has naturally been expressed that possibly a vaccine prepared from one or more of the other organisms present might be of value. So far the results obtained have not been altogether encouraging in advanced cases. In less severe and suitably selected cases diminution of fever and in the amount of expectoration appears to have been obtained, with definite relief to the patient.

Conclusions.

From a review of the above considerations it may be assumed that a rise of temperature, apart from accidental factors, may be considered an indication of activity, and that the most reliable means for reducing activity is rest. If, therefore, a patient who has been progressing favourably exhibits a rise of temperature, it must be accepted as a sign that rest must be insisted on. In other words, a patient suffering from pulmonary tuberculosis must live in accordance with his temperature chart. Any increase of cough and expectoration, headache, general malaise, and so on, should always be regarded as calling for a record of the temperature for a few days, and should a rise be found the necessary measures should be taken in accordance with the general features of the case.

In conclusion, I have to offer my sincere thanks to my house physician at the Brompton Hospital, Dr. A. S. Hahn, for the great assistance he has been to me in searching for suitable temperature charts for illustrating my remarks; and, finally, to reiterate that [illegible] lecture my aim has been not to give a [illegible] on the factors which produce fever in pulmonary tuberculosis, but to offer some suggestions which I trust may be of value in actual practice.

ROYAL SANITARY INSTITUTE.—The provincial sessional meeting of this institution will be held on Friday and Saturday, Oct. 17th and 18th, at Newcastle-upon-Tyne. On the first day there will be a meeting in the council chamber of the Town-hall at 7.30 P.M., when a discussion will be opened by Professor H. J. Hutchens, D.S.O., bacteriologist to the Newcastle-upon-Tyne corporation, on Some Points in the Relationship of Human to Bovine Tuberculosis; and Dr. S. J. Clegg, assistant medical officer to the borough, and Mr. William Hudspeth will open a discussion on Housing Problems in a Northern Industrial Town. Among those who have promised to take part in the discussion are Sir Thomas Oliver, Dr. T. M. Allison, Dr. H. Renney, and Dr. E. M. Smith. Dr. Philip Boobbyer will preside. On the following day there will be a short demonstration of the new electrolytic treatment of industrial lead-poisoning, a visit to lead works, and a survey of the housing reconstruction scheme at Forth Banks. After luncheon visits will be made to places of local interest. Tickets may be obtained from Dr. H. Kerr, medical officer of health of Newcastle-upon-Tyne, and of the secretary of the Royal Sanitary Institute, 90, Buckingham Palace-road, London, S.W.

An Introductory Address

ON

EXAMINATIONS, EXAMINERS, AND EXAMINEES.

Delivered at the Opening of the Winter Session at St. George's Hospital Medical School on Oct. 1st, 1913,

BY SIR WILLIAM OSLER, BART., M.D., F.R.S.,

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD.

GENTLEMEN,—In every department of human knowledge men are asking guidance in the solution of a world-old problem—how to train the mind and heart and hands of the young. The past and the present are in the melting pot—the moulds are ready, and all await with eagerness the result of the casting, and none with greater eagerness than our own profession. For we are in a quandary. Naturally conservative, we are bewildered by the rapidity of a forced *progress and change. There is a new outlook in every* department—not alone in the fundamentals of science and in methods of practice, but in the relations of the profession to the public and to the State. The actual care of the sick, once our sole duty, is now supplemented by such a host of other activities, social, scientific, and administrative, that an ever-increasing number of our members have nothing to do with patients as such. But the chief difficulty is the extraordinary development in every subject of the curriculum—a new anatomy, a new physiology, a new pathology, new methods of practice, to say nothing of phenomenal changes in physics, chemistry, and biology. Everywhere increased complexity and mind-burdening terminology. What is the teacher to do! And more important, What can the poor student do, confronted with so much new knowledge and a Rabelaisian onomatomania? How simple was a cell in the days of Schwann and of Schultze—nucleus, nucleolus, *protoplasm, and cell membrane; to day in* one of the very briefest of recent descriptions I counted 40 new names, not one apparently superfluous Turn to the index of a new treatise in embryology, to a work on immunity, or [illegible] will appreciate the [illegible] the modern student. [illegible] le, and to read intelligently an article in the *Zeitschrift fur Chemotherapie* or in the new archives dealing with immunity and metabolism requires a special education.

The truth is, we have outrun an educational system framed in simpler days and for simpler conditions. The pressure comes hard enough upon the teacher, but far harder upon the taught, who suffer in a hundred different ways. To help you to realise this pressure and to suggest measures of relief are the objects of this address.

EXAMINATIONS AND THEIR RELATIONS TO EDUCATION.

What a student knows and what he can do—these are judged by examinations, oral, written, and practical. Tests of progress, tests on behalf of the public of fitness to follow certain callings, they have always loomed large in educational systems. At the best means to an end, at the worst the end itself, they may be the best part of an education or the worst—they may be its very essence or its ruin. Helpful if an integral part of the training, they may, and do, prove the intellectual ruin of many good men. Long practice as an examiner—year by year since 1875—in many subjects, in many methods, and in many places, an intimate relation with a large body [illegible] education give me [illegible] of experience. M[illegible] mediæval tradition of the omniscience of the professor, and with my brother Regius of Cambridge I enjoy the rare privilege of examining in every subject in the curriculum, from organic chemistry to obstetrics, a privilege with this advantage—it enables me to see the work of many examiners.

Regarding examinations, I have one question to ask—Are they in touch with our system of education? and one suggestion to make—That from the day he enters the school, in laboratory, class-room, and wards, the work of the student should count, and count largely, in the final estimate of his fitness.

The Influence of Examinations on Medical Education.

Apart from a general feeling of dissatisfaction with the present system, two things strongly suggest a negative answer to the first question. As a discipline of mind and memory examinations play a leading part in all educational schemes. How they may finally control and sterilise the mind *of a nation may be read in the story of* China. For this has come about, not from lack of brains, not from any failure to appreciate the value of learning, not from any defect in the system itself, which is more rigid and exacting than anything in Western life, but from the blighting influence of an education directed to a single end, the passing of examinations. To test an education by its practical results at the table is to sin against the spirit of the Greeks, who first taught the fundamental lesson that the pursuit of knowledge to be productive must be disinterested. Nothing is more fatal to a true intellectual training than a constant preoccupation with its practical results. To be of any value an education should prepare for life's work. To train the senses for observation and the mind for reasoning, and to acquire a knowledge of the human machine and its disorders, a man spends five or more years at a medical school. Given a knowledge of the sciences on which it is based *there is no more fascinating study, since medicine is* the only one of the great professions engaging equally head and heart and hand. In its subject matter there is everything in its favour, and it is the easiest possible thing to carry out John Locke's primary canon in education—arouse an interest. With our present methods there is scarcely a subject which cannot be taught easily, and so many of them are practical, manipulative, and not at all difficult to acquire. To an inquisitive mind the study of medicine may become an absorbing passion full of fascinating problems, so many of which present a deep human interest. In the long category of man's conquests none are more brilliant than those with which a teacher of medicine can inspire his class. It is hard indeed to name a dry subject in the curriculum. And yet in an audience of medical students such a statement nowadays raises a smile. Why? Because we make the examination the end of education, not an accessory in its acquisition. The student is given early the impression that he is in the school to pass certain examinations, and I am afraid the society in which he moves grinds this impression into his soul. Ask *at* what he is working, and the student will answer *for* his first M.B. or his final. The atmosphere is Chinese, not Greek, and too often the one aim is to get through. We have become quite shameless about it, and practically admit a failure in our teaching when we advertise special tutorial classes for the different examinations, and *consign a large proportion of our pupils to the tender care* of "grinders"—and to no purpose! The spirit is taken out of instruction, and teacher and taught alike go down into the valley of Ezekiel—where they stay among the dry bones.

The Number of Rejections.

And a second circumstance proclaims loudly how out of touch are our tests with our teaching. The qualifying examinations of this country are well organised and admir*ably conducted, and, speaking by the book,* I may say that nowhere is the knowledge that a man can use so freely tested in the laboratory and at the bedside. And it has been so for several generations, yet year by year the General Medical Council issues a report that gives any teacher food for serious thought, as it demonstrates, beyond peradventure, how completely out of touch he or the student, or both, has got with the examiner. A medical school is a human factory, turning out doctors as the finished product at the end of five years of careful *preparation and fitting of the mental* machinery. Failure is incidental to every human effort, and even the Rolls-Royce Company turns out cars from their shops that fail in the tests, but not many: But from our shops, after five long years or even more, we send our medical motors to be tested for the road by the official experts, and nearly one-half are declared to be defective and sent back to the shops. Use and Wont, those "grey sisters," have so dulled the edge of this bitter experience that we have become accustomed to *conditions nearly insupportable.* Year [illegible] the returns in the two great final [illegible], easiest to teach, show [illegible]

To the question much thoughtful attention has been given, and in the General Medical Council so far back as 1896

Mr. Pridgin Teale introduced a motion with the following preamble: "That the present system of accumulated examinations and the enormous increase in the number of rejections resulting from it are not only unjust to the student but damaging to medical education." Mr. Teale pleaded wisely and forcibly for a reduction of the examinations and for the substitution in certain subjects of certificates from the teachers and class examinations.

The Council reports show that the percentage of rejections at the final examinations has progressively risen from 12·4 in 1861 to 22·2 in 1876, to 34·8 in 1886, and to 41·9 in 1895. Mr. Teale, who quotes these figures, remarked that with the multiplication of examinations the more fatal do they become. The figures for the five years 1908 to 1912 show a continuation of the upward movement. Take the great final subjects, medicine and surgery, at the three Boards before which we may say the average student presents himself. I will put the collected figures as concisely as possible. The English Board: medicine—passed 1842, rejected 1135, percentage 38·12; surgery—passed 1821, rejected 1506, percentage 45·23. Scotland: medicine—passed 489, rejected 653, percentage 57·18; surgery—passed 492, rejected 731, percentage 59·77. Ireland: medicine—passed 322, rejected 231, percentage 41·77; surgery—passed 326, rejected 239, percentage 42·30. In the five years a total of 4572 students were examined at the Conjoint Boards of the three kingdoms in medicine, of whom 2019 were rejected, a percentage of 44·16. Of 5105 examined in surgery 2475 were rejected, a percentage of 48·48. Take for comparison the three universities—Edinburgh, Oxford, and Cambridge—for the five years ending 1912. At the Scotch capital there were 985 examined in medicine, of whom 267 were rejected, 27·10 per cent.; in surgery 974, of whom 317 were rejected, 31·52 per cent. In Oxford, where the three final subjects are taken together, it is impossible to say upon which subject a man came down, but in the final examination of 135 candidates 47 were rejected, a percentage of 34·81. At Cambridge during the five years, in medicine of a total number 519, 365 passed and 154 were rejected, a percentage of 29·67; and in surgery of a total 603, 233 were rejected, a percentage of 38·64.

There is not so much difference, you notice, between what may be called the pass men of the Conjoint Boards and the men entering the universities, and I do not believe there is any special difference in stringency between the Oxford and Cambridge examinations and those of the London Conjoint Board. There are two other examinations which the élite of the student body affect. How do they stand? All regret that in London only the select and the elect attempt to get the degree of their own University. And it is difficult! Twice in the past five years more students have failed than have passed the final subjects for the M.B. The total figures for the period are: of 1061 candidates examined 481 were rejected, a percentage of 41·01. And, lastly, to one other qualification, greatly prized, sought only by the very best men, the Olympic athletes of their classes, I will refer—the F.R.C.S. Eng. Consider, please, how carefully this group is trained—only the very best venture to compete, and they have a diet of which the intellectual calories are gauged with surpassing accuracy. There is no doubt they are our very best, the picked steeple-chasers of our stables. How do they fare? I am almost ashamed to read the figures. Your ears have tingled already, but only those hardened by familiarity will not be shocked at the demonstration of such a chasm between education and examination. Of 1186 men who have tried for the primary Fellowship examination of the Royal College of Surgeons during the past five years 821 were rejected, 69·45 per cent. Of 680 men at the final Fellowship examination 294 were rejected, 43·23 per cent. The high-water mark of examination futility was reached in May, 1912, when of 118 candidates for the primary Fellowship only 31 were approved. These are picked men, our very best students, the most carefully prepared, who rarely attempt the trial without months of extra study and attendance upon grinding classes. Of the ploughed I have known personally, many seem to have been over-trained, others had spent their time in unprofitable original research; but all, passed and plucked alike, I maintain, are of the highest type of our students, whose calamities proclaim to the world the breakdown of our present educational system.

The failure is general all along the line and in all grades—at the licensing boards, at the older Universities of Oxford and Cambridge, at Dublin and Edinburgh, at South Kensington, and at Lincoln's Inn-fields; with singular uniformity all tell the same tale. There have been uneasiness and talk, but too much self-satisfied indifference, and even after the famous rout for the primary Fellowship in May last year I am told that satisfaction was expressed with the scope and method of the examination! Satisfactory to the examiners, perhaps, though I doubt it; but most unsatisfactory to the teachers, most painful to the students, and by no means a pleasure to the public as represented by the parents.

How May Relief be Obtained?

I venture to offer a few suggestions. First, by simplifying the curriculum to give the students more time. Allow the teachers a free hand in the matter of systematic lectures. Let them be reduced to a minimum or abolished altogether. One advantage they have—subjects may be dealt with which cannot possibly be illustrated in the wards. But such may be better presented in the "seminar" form, the senior students arranging the subjects among themselves under a skilled assistant. London students still have too many lectures in medicine and surgery to attend; Scotch students many more. I do not speak without experience when I say that the subject of medicine, for example, may be taught without the set lecture. The lecture has its value, a precious one from some lips—a Watson's or a Trousseau's; but its day has gone, to give place to other methods better adapted to modern conditions. Think of the saving of time if the lecture list was snipped in half, or if the lecture was limited to a few subjects, such as physiology and pathology, and if it were an offence for a senior student to be seen in a lecture-room!

Then let us boldly acknowledge the futility of attempting to teach all to all students. Burn the anatomical fetish to which we have sacrificed long enough, and to our great detriment. Just glance at "Cunningham's Anatomy"—1465 pages, many in small type, not one of which is without a water-jump for the first Grand National of the *medical* student. It is barbaric cruelty with so much ahead to burden the mind with minutiæ which have only a Chinese value—a titanic test of memory. To schedule a minimum of the essentials should not be difficult, once the great principle is acknowledged that in all departments of the curriculum only a few subjects can be mastered thoroughly. I am afraid the secret of the tragic tale I have related *lies in* a quotation which Socrates made to Alcibiades:

> Full many a thing he knew,
> But knew them all badly.

I acknowledge the difficulty of defining in different subjects a minimum of the essential, but it is not insuperable, and such schedules are issued in some universities.

Secondly, relief may be obtained by giving credit for work done throughout the course, changing the present system of "signing up" for one of reports by demonstrators and assistants on the character of the work done by each student. Let all who teach examine. Let education and examination go hand in hand. Let the day's work tell from the moment a student enters the school. Everyone from the junior demonstrator who supervises the student's first dissection to the professor—all should weigh while teaching. Day by day as I see John Smith in the wards, and read his notes, and watch his clinical work and discuss the features of the patients, or as he narrates his case to the class about the bed and he and I have a Socratic dialogue, instruction and examination go hand in hand, and in such a way that at the end the formal tests should be but an amplification, an extension, and an inclusion of the scores of examinations which have been part of the routine of his life. Perhaps at present Utopian, this plan will be feasible in a new and reorganised generation; indeed, it is feasible now in self-contained universities. Once accept the principle that instruction and examination should go hand in hand and the difficulty is solved. The returns are automatically passed on to the head of the department. Yes, but someone will say, "Take the judgment of a group of young teachers? It is absurd!" Not a bit. They see more of the students, come into closer contact, and are better able to judge of the quality of their work than the professor, and much more than any outside examiner. According to the character of his work a student should acquire much or little merit, and should be able to take to the examination table enough to pass, or at any rate to make the final test in any subject *pro forma.* Where the classes are small, as in many of the provincial universities, this plan could be easily worked. I have had practical experience of it and came to the conclusion early that the judgment of the man who was fit to teach could be taken in estimating the progress of the student's education. And the system is being adopted. A few months ago I went into the beautiful clinical and pathological laboratory of the new Toronto General Hospital, and in one room I found an examination in pathology going on. The candidate had a set of cards in his hands, on each of which were written the details of the post-mortem examination he had made with a careful discussion of the case. Pass or pluck really depended on the cards a man held. He brought his marks with him—instruction and examination had gone hand in hand. I was delighted to hear from Professor MacKenzie that the system, introduced at McGill by my pupil and successor, the late much lamented Wyatt Johnston, had proved very successful in both Canadian schools.

Thirdly, simplify the examinations. Cut off some of the written papers. In the final subjects the long report on cases, the bedside *viva*, supplemented if need be by a special "oral," will give examiners the necessary knowledge of a candidate's mental outlook. If they will consider, not how much he knows, but how he knows what he knows, the long "written" is superfluous. As one watches a man handle a patient it is easy to tell whether or not he has had a proper training, and for this purpose 15 minutes at the bedside are worth three hours at the desk. We must substitute for the quantitative estimate the qualitative, and judge the student as much by manner as by matter.

Fourthly, when possible, evidence of original work should be substituted for examination. Think of the stimulus to British surgery if, in place of the Egyptian tyranny to which our best students now slavishly bow, the President and Council of the Royal College of Surgeons selected for the Fellowship each year the 15 or 20 of the men under 30 who had distinguished themselves most highly in surgical research. It would change the mental attitude of the younger generation, instil the spirit of Hunter into its members, and prevent the paralysing mental sterility that overtakes many good men who now spend precious plastic years in the dry drudgery of examination details.

Fifthly, compel no student to pass an examination twice in the same subject. At present brain and pocket alike suffer, and the burden could be lightened by a free reciprocity between the examining boards.

EXAMINERS AND THEIR DUTIES.

Men are usually very superior to the system in which they work, and so it is with examiners. After what has been said you may be disappointed not to hear a tirade against them; but I have had a singularly happy experience with my fellow inquisitors, whom I have found, as a rule, among "the mildest-mannered men that ever scuttled ships or cut throats." The two extreme types, the metallic and the molluscoid, illustrate inborn defects of character. The aggressive, [illegible] and the hard [illegible]" expression, [illegible] it reaches his [illegible]s, perhaps, to a serious mistake in his paper. Imagine the mental state of a poor chap greeted with, "What did you mean by saying that the ciliary muscle is supplied by the pneumogastric nerve?" And the worst of it is that the metallic examiner may have no sense whatever of his failings, but is rather apt to pride himself on a keen appreciation of his duties. I remember a hard-faced inquisitor who took, so it seemed, the greatest pleasure in torturing his victims—dwelling with fiendish glee on all the small mistakes he could find, criticising the spelling, and ending on one occasion with the cheerful remark, "Mr. Jones, who taught you to write?" That evening, talking about examinations, I said in a joking way: "Judge Jeffreys, you are a heartless brute; I wonder some student has not assaulted you." He took it very much to heart, and I had a long letter about the great responsibility of the position and the rigid sense of duty he felt towards the University and the public. And the facial expression of the fellow examiner is not without importance, whether sympathetic, neutral, or antagonistic. One co-examiner always had a sardonic expression, a sort of Arian grin, plainly saying, "Well, you are a hopeless idiot!" The examination room may have the atmosphere of a cold storage chamber, and a student knows at once the type of man with whom he has to deal.

At the other extremity is the invertebrate examiner, so soft and slushy that he has not the heart to reject a man. It is a variety not often met with in this country, but it exists. Sympathy with the student and a strong feeling for his position may completely overmaster the sense of duty to the university and to the public. A former colleague was made unhappy for days if he had to reject a candidate. For some years I sat on an examination board with an elderly professor, a man of great force of character and ability, who never gave a candidate less than 80 per cent. of the possible marks. In the case of the most hopeless duffers with 20, 30, or 40 per cent. in other subjects he would call out "pass." He was a great grief to me, as well as a mystery. At the last meeting which he attended as an examiner he tossed his book to me with a malicious smile. There were 116 candidates, not one of whom he had rejected, and not one of whom had less than 80 per cent.!

Between the metallic and the molluscoid is the large group of sensible examiners who try to put the candidate at his ease and to find out what he knows in a simple, sympathetic manner. But in any case the examiner is apt to take an unfair advantage of his position, and quite unconsciously. A specialist to whom the facts of his subject have become familiar and ingrained is apt to forget the years that have given the facility and the knowledge; and he may wonder when a man hesitates over an Argyll-Robertson pupil or mistakes a pericardial rub for an aortic insufficiency murmur. The most grievous mistake of the examiner is to regard the candidate as his mental equal and to expect from him knowledge of the same quality as that which he possesses, ignoring his long years of study and the short years into which the student has had to cram the knowledge of a dozen subjects.

Examining is often a heart-breaking task, with little to relieve the monotony of the long-drawn papers. It is distressing to meet with abysmal ignorance of elementary facts, and to realise with sorrow how many more minds are constructed as sieves than as sponges. But there are compensations, and who is there among us who does not appreciate Comte's statement that there were few more delightful experiences than the sweet and softened feeling when a young man's examination was thoroughly satisfactory! But it is much nicer to watch the gradual growth of a student's knowledge and to get it out retail day by day than to drag it out wholesale at set times. One thing is certain—the best we have should be devoted to our duties as examiners. Men should give their whole time to the business when at it. Much-engaged men should not be chosen, and to examine in the evening, after a hard day's work, is to handicap the candidates. We shall no doubt come to a time when professional examiners will be appointed by the General Medical Council to act as associates and assessors to the professors. That it is not a task lightly or inadvisedly undertaken the returns I have given indicate only too clearly. Not that we can lay at the doors of the examiners the responsibility for the lamentable state of affairs to which I have referred. No doubt there are unduly severe examinations, and there are examiners with hearts as hard as pieces of the nether millstone, but these are exceptions.

THE EXAMINEE AND HIS POSITION.

When quoting figures I purposely dealt chiefly with the results of the final examinations, and I am sure the feeling uppermost in your minds was one of sympathy with the hundreds of young men who, after five years of hard work, fail in ordinary tests, and this brings us to a brief consideration of the examinee and his position. In two respects he is an unfortunate victim. Of one I have already spoken—the enormous development in the subjects of the curriculum; and here, I am sure, lies his serious difficulty. It is the case of a quart measure and a pint pot. Intellectual dyspepsia from cramming is at the bottom of his trouble. It is like a diet of hot bread, which a man can stand at first, but, as Lowell says in the "Fable for Critics"—

> By gradual steps he
> Is brought to death's door by a mental dyspepsy.

Another cause of the widespread rejections is defective preliminary education; but let me emphasise the fact that the percentages of rejections are nowhere higher than among the very best students—e g., Cambridge men, among whom in some subjects more than 50 per cent. are rejected. I do not deny that much could be done to relieve the present stasis if all medical students began thoroughly trained in physics, chemistry, and biology. In this respect matters are improving year by year. And we should be more honest with the feeble ones, not fitted either by breeding or by pasture to pursue their studies, who should be asked early to withdraw. It is infinitely kinder to stop a man in his career than to allow him to struggle on painfully and submit to the humiliation of half a dozen or more rejections.

The conclusion of the matter is, the student needs more time for quiet study, fewer classes, fewer lectures, and, above all, the incubus of examinations should be lifted from his soul. To replace the Chinese by the Greek spirit would enable him to seek knowledge for itself, without a thought of the end, tested and taught day by day, the pupil and teacher working together on the same lines, only one a little ahead of the other. This is the ideal towards which we should move. The pity of it all is that we should have made an intolerable burden of the study of one of the most attractive of the professions, but the reform is in our own hands and should not be far off. A paragraph in an address of the late Dr. Stokes contains the pith of my remarks: "Let us emancipate the student, and give him time and opportunity for the cultivation of his mind, so that in his pupilage he shall not be a puppet in the hands of others, but rather a self-relying and reflecting being."

An Introductory Address

ON THE

PRESENT PROBLEMS RELATING TO THE ORIGIN OF MODERN RACES.

Delivered at the Opening of the Winter Session in Medicine at the University of Birmingham on Oct. 7th, 1913,

BY ARTHUR KEITH, M.D. ABERD., F.R.C.S. ENG.,

CONSERVATOR OF MUSEUM AND HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

GENTLEMEN,—Less than a month ago the Principal of this University took the members of the British Association a long excursion into space and bade them look on the planet on which they live at such a distance that neither man nor beast was within the limits of sight. Only great structures like the Forth Bridge and the Assuan Dam were visible.[1] To-night I want you to look at the earth a little closer—near enough to see its variegated covering of humanity as its continents revolve under our eyes.

THE WORLD'S CARPET OF HUMANITY.

As the western seaboard of Europe passes by and our own country comes in sight we shall suppose we are near enough to perceive that the human carpet along our Western coast is not quite of the same texture as that which covers the lands sloping down to the North Sea. When Europe itself comes under our gaze the pattern of the human carpet begins to change, and by the time the Far East has risen under the morning sun we shall admit, I think, that the change has become decided. A pall of smoke, the wreckage of a battle-field, the demarcation of new frontiers reveal to us one of the processes at work in modifying the pattern of our carpet. When we turn our eyes southwards and view Africa across the Mediterranean there is at first no marked degree of change—not until the great forest region beyond the Sahara comes in sight. A glance from Northern Europe to Central Africa reveals the extremes in the earth's covering of humanity—not the extremes of material—merely of pattern or design; European and African seem to be products of the same loom. In the southern corner of Africa human contrasts of another kind may catch our eye. We may there see a valiant attempt being made to weave a new human carpet, one in which the European thread of the woof will not intertwine with the African thread of the warp. In this new carpet lie the decaying threads of one of the most remarkable patches to be seen in the widespread covering of humanity—the Bushman and Hottentot tribes.

As Europe and Africa sink out of sight and Asia rolls past under us, we see the human pattern again undergo a change. South of the Himalaya the plains of India are covered by peoples of diverse kinds, in whom we seem to detect a mixture of European and African features. North of the Himalaya a wide part of the earth is covered by men who are quite unlike those already seen elsewhere. The Mongolian type cannot be compounded by mixing other known elements of humanity. South of the Equator—the Asiatic aspect of the hemisphere—in Australia and the islands of the Pacific we may perceive a bewildering mixture of human patterns, varying from the negro type towards the European and also towards the Mongolian. Lastly, the new world unfolds itself. At first sight it seems to present an entirely European complexion. Peering beneath the surface, however, it is easy to see numerous remnants of diverse and ancient races. More than in any part of the earth the web of humanity is being actively woven in the New World. North of Mexico there is a resolute determination to keep the white and black threads separate; from Mexico to Cape Horn nature weaves the human web as she will.

THE PERMANENCY OF HUMAN TYPES.

Having thus followed Sir Oliver Lodge into space and surveyed in a cursory manner the world's carpet of humanity, we shall now return to earth and see what we can ascertain concerning when and how it came to be woven. It is the "when" rather than the "how" which concerns us in the present hour. The belief is still general that it is not many thousand years since the world became populated by the races of modern man. Such a belief is not illogical. When we try to imagine what has happened in the past we must base our speculations on what is taking place under our eyes at the present time. There is a restlessness, a migratory instinct inherent in a considerable proportion of every population. I dare think that in Birmingham there are to be found not only natives of every county of England, but that most of the Welsh, Scotch, and Irish counties are also represented. Birmingham has not only received, it has also given. If it resembles other towns it has sons and daughters throughout the world. The objection will be at once made to this train of reasoning that the migratory tendency alluded to is of recent origin—that it is a result of our modern civilisation. Industrial or individual migration is a new condition, but predatory or collective migration has evidently been in existence as far into the past as history or tradition can take us. Amongst more primitive races of man—and it is they who give us the key to the early state of civilised races—there lurks a deep-rooted tendency to collective migration. When we realise the rapidity with which a people may multiply and the tendency inherent in all human races to migrate, it is conceivable that mankind may have spread from a centre and occupied the whole earth in the space of a few thousand years.

The discoveries which have been made during the last 50 years clearly indicate that the distribution of mankind and their separation into widely different races have not been a rapid but a very slow process. Thanks to the labours of the Archæological Survey of Egypt, to Dr. Reissner, to Professor Elliot Smith, Dr. Wood-Jones and Dr. Derry, we know something of the people who occupied the Lower Nile Valley during the last 8000 years. At every phase of that long period there was found evidence of the arrival of new types—of migrations or invasions of Egypt—but there was also clear evidence of the survival of the old types. There was evidence of mixture, but the final conclusion to be drawn from a study of the ancient inhabitants of the Nile Valley is that the passage of 8000 years left the prevailing human types modified to only a slight degree. Recently Dr. Seligmann has shown that certain native tribes near Suakin on the Red Sea have features and bodies very similar to the predynastic Egyptians. The explorations of Mr. Henry S. Wellcome in ancient cemeteries of the Soudan have demonstrated that the peculiar, tall, slender, long-limbed negro tribes which now occupy the upper waters of the Nile were there at least 2000 years ago. The lesson that Egypt has to teach us is that human types are not easily changed. The explanation which is usually given—and I am prepared to accept it—is that the conditions of life along the Nile Valley have remained unchanged during recent millenniums, thus ensuring the permanency of the human type.

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[1] THE LANCET, Sept. 13th, 1913, p. 785.

When we turn to America we find farther evidence of the permanence of human types. In recent years Dr. Ales Hrdlicka, of the Bureau of American Anthropology, has written two excellent memoirs on the remains of ancient human skeletons which have been discovered in the New World. Of those discoveries I propose only to cite one—the human skeleton discovered at Lansing, in the State of Kansas, 11 years ago, in a glacial deposit at a depth of 23 feet. Dr. Frederick Wright, who has given a lifetime to the study of glacial deposits in North America, and especially to the antiquity of man in that country, regards the deposit under which the skeleton was found as formed before the last cycle of glaciation, and gives its probable antiquity as about 12,000 years. If the European cycles of glaciation were contemporaneous with those of North America, then the antiquity, if I may infer from the estimates given by our own geologists, is very much greater than has been calculated by Dr. Frederick Wright. No one has ever called in question, no one can call in question, the authenticity of the age of the Lansing skeleton. Dr. Hrdlicka, however, rejects it as representative of ancient man in America on the ground that "this man was physically identical with the Indian of the present time, and that his physical characteristics during all the thousands of years assumed to have passed have undergone no important modification." We see from that statement that Dr. Hrdlicka is under the belief, one which is widely held at the present time, that human types are so liable to variation that it is impossible for them to breed true over a long space of time. We must accept facts as we find them and suit our beliefs to fit our observations. The plain lesson of the Lansing find is that before the last great glacial cycle there existed a type of man in the central States almost identical with the modern Indian of the same region.

THE EARLY PEOPLE OF ENGLAND.

When we come to study the history of our own countrymen we reach a similar conclusion. Our archæologists are opening up Anglo-Saxon cemeteries of the fifth and sixth centuries and revealing to us the physical characters of the people who gave us their language and their blood. Their teeth were better than ours, their limb bones are usually rather different in conformation, but the counterparts of those people are to be seen on every hand at the present day. Every year we come to know more of the people who inhabited Britain in the Roman period; they are the same kind of people as ourselves; their heads showed the same variety of forms as may be seen in Birmingham to-day. When we go further back, to the time before iron was used and weapons were made of bronze—to a date which takes us some 2000 years before the birth of Christ, we find human types with which we are still familiar. Those handsome men with high, rounded heads, whom we now know as squires and men in posts of authority, first appear in our country at this date. They were originally natives of Central and Eastern Europe; they were not a new type of man—only new to England. When we go further back and explore those mounds or barrows which contain the men who lived in England in the Neolithic period we do not find new types; the men of that time, except as concerns the state of their teeth and shape of their limb bones, were at one with us. Five thousand years ago the men of England were of our stature, had the form of head and the strength of muscle which has been given to many of us.

When we pass beyond the Neolithic period to reach the time when only stone implements of the more ancient or palæolithic type were used, we were supposed, until a few years ago, to come to a blank or hiatus in our knowledge. That blank is in the process of disappearing. Recently Mr. Reginald Smith, of the British Museum, has recognised that the flint implements which were left by the men who dug those peculiar pits at Cissbury and in other parts of England were not early neolithic people as is usually supposed, but were in reality palæolithic folk. Now we know some of the skeletons of these early Englishmen; they were men exactly of the common British type. Lately I had an opportunity of examining two discoveries of human remains from Kent which were so similar that they might have been almost members of the same family, yet we are fairly certain that they belong to very widely separated periods. The remains of one set of people were discovered at the base of an ancient stone monument at Coldrum, in Kent, within the valley of the Medway, by Mr. F. J. Bennett, F.G.S. Only worked flints of a neolithic type were found during the excavations; we may, therefore, presume that the people who were buried in the ancient tomb at Coldrum were Kentish people of the Neolithic period. The more ancient skeleton was discovered a short distance from Coldrum, near the little town of Halling, situated on the Medway, a few miles above Rochester. At Halling the Medway is flanked by a terrace of brick-earth, laid down at some previous period, when the Medway flowed a number of feet above its present level. This terrace had to be cut through when a new sewage system was being constructed for Halling. The terrace was seen to be made up of a number of superimposed strata or layers, each layer or stratum being of different composition, and therefore marking a separate period in the action of the river. Beneath the fourth layer, counting from the surface, were found charcoal, charred stones, and remains of hearths, with worked flints which belong, not to the neolithic, but to the palæolithic type. They are similar to those found in the floor-strata of French caves, and are of the type assigned to that palæolithic phase of culture known as Aurignacian. The upper four layers had thus been deposited over an old habitation of the men who lived before the close of the Palæolithic period—who actually were in Kent towards the close of the last cycle of the Glacial period. In the fifth stratum, at a depth of almost 6 feet from the surface, was found a human skeleton, which has been preserved and investigated by Mr. W. H. Cook and Dr. Spencer Edwards. To me it is clear, from the flexed posture of the skeleton, that they were dealing with a burial, but not one made by modern men from the present land surface, but one made from the ancient land surface by the palæolithic men who lived before the last four layers of the terrace had been deposited. A full investigation of the skeleton showed that the palæolithic man of Halling was very near akin to the neolithic people of Coldrum, and yet the years which elapsed between the periods at which the one and the other lived must be counted in thousands. A few miles north of Halling, in the valley of the Thames, is Tilbury. When the docks were excavated an old land surface was reached at a depth of 32 feet; two feet below this old land surface was found the skeleton of the Tilbury man. He belongs to that form of ancient Briton to which Huxley gave the name of "river-bed" type; he is first cousin to the men who have long lived on the shores of the Mediterranean and which Sergi has distinguished as the Mediterranean race. The remains found at Halling and at Coldrum may also be assigned to the river-bed type. This type was not confined to the south-eastern part of England. From the old forest land now submerged along the western and southern coasts of England human skulls of this type have been recovered. The skull found in the Cheddar caves and described by Mr. Davies as belonging to the closing phase of palæolithic culture is of the same class. Some 60 years ago, when a cutting was made for a new railway near Mickelton in Gloucestershire, a skull of this type was found at a depth of 10 feet, beneath peat and undisturbed blue clay—certain indications of a great antiquity. A few years ago the Rev. E. H. Mullins explored a small limestone cave which lies in a narrow valley behind his rectory at Langwith Bassett in Derbyshire. In the cave he found numerous remains of animals—many of them now extinct—and clearly belonging to the geological period preceding the present—the Pleistocene period. He found worked flints and a human skull. The skull was of the river-bed type, but its condition was so fresh that at first I was inclined to think some mistake had been made. Mr. Mullins, however, showed me that the condition of preservation of the skull was exactly the same as that of the bones of the extinct animals. It is probable that the Langwith cave skull is of the same age as the Halling skeleton; both appear to belong to that period of palæolithic culture—the Aurignacian. How long ago it is since the Aurignacian period closed we have as yet no accurate means of judging, but those who have studied the changes which have occurred in our valleys and in our fauna suppose that we must make a liberal allowance of time—30,000 years or perhaps more.

THE ANTIQUITY OF MAN.

We have thus surveyed the history of the men of three parts of the earth over a considerable period of time. In all three places the result has been the same—we see the same persistence of type in Egypt, in America, and in England. In this hall to-night there are representatives of the men of the Derbyshire cave and of the Halling terrace; in America the Red Indian preserves the form of men who lived before the last glacial invasion of North America; the predynastic Egyptian survives in the tribes on the shores of the Red Sea. We may, therefore, suppose that if inquiry were made in China, in India, or in Central Africa the result would be the same—that in Central Africa we could follow the Negro type well back into the Pleistocene period; in China the Mongolian type, and in India the Dravidian. It is when we come to realise the persistency of human types that we see that we must allow a very long period indeed to cover the time needed—not for the population of the world, but for the differentiation of modern man into the well-marked races with which we are all familiar. The characters which separate the European, the Chinamen, the negro impress every one of us; we cannot overlook them. Yet when we come to examine those races structurally we must admit that they are so much alike that we must suppose, to account for their community of structure, that all three have come from a common stock.

The question we have to face in solving the problem of the antiquity of the modern races of man is, How long will it take for the separation of an African, an Asiatic, or a European, from a common stock? It is evident, from what we have discovered concerning the fixity of human types, that it will take a long period—infinitely longer than most modern geologists will allow.

When we approach the problem of the antiquity of man from the side I have tried to present to you, we obtain some assurance that the human beings who represent the common stock from which all our modern races have diverged could not be of a very low type. When we come to study the features which characterise the brains of the various human races—so far as these differences may be detected with the naked eye—we see that they relate to structural details. In their main features they are alike. It is true that a skilled anatomist will, if you show him a representative specimen, distinguish the brain of a negro from that of a European or from that of a Chinaman; I do not think, however, he could tell with any degree of certainty the brain of the Chinaman from that of the European. Seeing that the brains of all modern varieties of men are so much alike in the essential features of their architecture, it is a legitimate inference, I think, that a large and moderately complex brain is a common inheritance of modern races—that in the common stock from which all modern races have arisen a fairly large human brain must have been already present. We, therefore, ought to find even before the differentiation of the present races of mankind that there were human beings in existence with large brain already.

I am now to lead you on to another aspect of this problem which is hotly contested at the present time. In tracing backwards the ancient inhabitants of England, I left off with the remains which are assignable to the later part of the Pleistocene period. I now propose to advance well into that period. In the valley of the Thames there still persist, in the form of a gravel terrace, remnants of an ancient bed of the Thames It is known as the 100-foot terrace because it is situated about that distance above the level of the Thames. About the geological age of that terrace, at least its deeper strata, there is no dispute; it belongs to the earlier half of the Pleistocene period. Now it was in that terrace, at a depth of 8 feet, in strata which contained worked flints belonging to an earlier form of palæolithic culture, and with remains of pleistocene mammals, that the Galley Hill skeleton was discovered. The remains are those of a man of our type. It would not be easy to find his match in our present population; I doubt if anything approaching a counterpart to him could be found, but he could appear in a modern company without his features calling forth any special remark. The remains were discovered in 1888. Some years before a fragment of a human skull was unearthed in a deposit of brick earth near Bury St. Edmunds at a depth of 7 feet. With it were found mammoth tusks and implements of the Acheulean type—a culture which belongs to Middle Pleistocene time. It is only a fragment, but there is sufficient of it to make us certain that the original skull of which it formed part was shaped as in modern human races. Two years ago Mr. J. Reid Moir, of Ipswich, discovered a human skeleton beneath an undisturbed layer of chalky boulder clay 3½ feet in thickness. The skeleton lay in the flexed posture, and probably represented a burial, but it was one made before the chalky boulder clay was laid down. That is a deposit following the great glaciation. The skull and skeleton have the features of modern races, all except the tibia—that was shaped differently to any human tibia I have yet seen. The Ipswich skeleton represents a man of the modern type. Thus, in my belief and in that of many competent men, we have discovered in England representatives of modern man in existence in England, even before the middle of the Pleistocene period.

By Professor Boyd Dawkins and Dr. Smith Woodward such discoveries are regarded as impossible; with Dr. Hrdlicka they think that a human type could not persist from the Mid-Pleistocene to the present day unchanged. In their opinion all the human remains just mentioned represent Neolithic burials. Our Neolithic ancestors took the trouble to dig a grave 8 feet deep in the 100-foot terrace, and laid the strata down again so carefully that we cannot now detect their forgery. The Neolithic men of Bury St Edmunds laid a fragment of a dead man's skull 6 feet deep in brick-earth with mammoth tusks and Acheulean implements to delude a simple set of men in the twentieth century into believing that mankind of our type was ancient!

NEANDERTHAL MAN AND THE PILTDOWN SKULL.

Another obstacle to the belief in the antiquity of our own type of mankind has been removed in recent years. I may describe it as the Neanderthal bogey. A certain school of geologists became obsessed with the belief that it was impossible for any species of mammal to come through a long geological period unchanged, and inferred that man could not escape so universal a law. The discovery of that extraordinary type of mankind over half a century ago—the type which is now known as Neanderthal—confirmed this belief. To a superficial eye Neanderthal man was just the individual wanted to represent our stage in evolution during the Pleistocene period. He had many simian features which we do not possess. We have come to realise now that he had also many high specialisations, and that he cannot stand in the direct line of our ancestry. We know him now as a being quite distinct from all modern races; the difference between him and us is much greater than between a European and a negro; he represents a totally different form of human being. We now know his culture and his period. We have followed modern man right up to the threshold of the period at which he lived; it is also clear that he died out in front of modern man in the same way as the Tasmanian disappeared before the European. Neanderthal man does not represent our Pleistocene ancestor. Where, then, is our pleistocene ancestor if not at Galley Hill, at Ipswich, and at Bury St. Edmunds? These remains were found in older deposits than those which contain the remains of Neanderthal man. In Italy it is the same as in England; human remains of our type have been found, but they have been rejected because they were not of the Neanderthal type.

The remarkable skull which was found at Piltdown by Mr. Charles Dawson and which has been described by Dr. Smith Woodward, is destined to throw a new light on the problem of man's antiquity. It was found in a very shallow deposit, little more than three feet below the surface of the ground. If it had so happened that this skull presented modern characters, what would have been said of it? I am certain that Professor Boyd Dawkins, Dr. Smith Woodward, and Dr. Hrdlicka would have regarded it as a recent burial. If its high degree of fossilisation had been brought to their notice they would have replied that fossilisation was a most uncertain indication of antiquity; they would have cited bones from neolithic burials which show mineralisation to an equally great degree. If it was pointed out to them that the remains found with the skull were those of extinct animals belonging to the Pleistocene period they would have replied that a recent burial may be made in a Pleistocene stratum and bones of different ages thus mingled. I draw your attention to those aspects of the case of the ancestor of modern man—he is sentenced before his trial begins. In the *case of the Piltdown skull*, characters are present which mark its ancient date. No modern man has such a chin or lower jaw; and if Dr. Smith Woodward is right in assigning the canine tooth found at Piltdown to this jaw *no human being has been seen with such a simian canine* tooth. In many features the Piltdown man foreshadows our type. Does he, then, represent our ancestors near the beginning of the Pleistocene period, admitting for the sake *of argument that the Piltdown man is Pleistocene* and not Pliocene in date?

The opinion I have formed is that he does not lie in the direct line of our ancestry. I base my opinion on the fact *that we know of the remains of two different species or genera* of mankind in Europe at the beginning of the Pleistocene period—one is the Heidelberg man, the other is the Piltdown. The Heidelberg man was certainly of the Neanderthal type, *the Piltdown man is much more of our own type.* They are clearly products of a common stock. We must presume, from what we know of man's nearer relatives—the anthropoid apes—that the common ancestor of Piltdown and Heidelberg man *possessed the ledge-like overhanging eyebrow* ridges which characterise the anthropoid forehead. These ridges have disappeared in the forehead of the Piltdown man; they have been retained by Neanderthal man. On the other hand, in the Heidelberg jaw the region of the chin already shows human modifications; the Piltdown man retained the simian form. There is, if we may use Mendel's law for this pu [illegible] mediate descendant of [illegible] ancestor missing—one w [illegible] of the chin and the disappearance of the ledge-like supra-orbital ridge. That missing form would serve well as our ancestor. We *must, then, not dismiss as neolithic burials those human* remains which have neither simian eyebrow ridges nor simian chins. I still maintain, as I did before the discovery of the Piltdown skull was made, that the Pliocene ancestor *of modern man was one probably as highly evolved as the* aboriginal man of Australia.

An Introductory Address

ON

THE PROBLEMS OF UNIVERSITY MEDICAL EDUCATION IN LONDON.

Being the Annual Report of Charing Cross Hospital Medical College presented at the Opening of the Winter Session on Oct. 1st, 1913,

BY W. HUNTER, M.D. EDIN., F.R.C.P. LOND.,

DEAN OF THE COLLEGE.

[Dr. Hunter in the first part of his report briefly reviewed the results of two years' experience of concentration of the earlier medical studies, as adopted two years ago, by transferring its students for this purpose to the University of London, King's College Laboratories, immediately adjacent to the school. The result has been a marked increase in students from a total of 109 in the school in the year 1910–11 to an average of 150 during the past two years. The school is now practically entirely medical, the dental students for the most part having passed to the two or three schools in London which are especially interested in dental education, increasing their prosperity, while this loss to Charing Cross Hospital Medical College has been compensated by a still larger increase in the *number of medical students.* Of [illegible] ore- [illegible] lon. [illegible] by the *concentration* plan, have been devoted to the bacteriological and public health departments of King's College, and the school is enabled to make a grant of £250 a year out of the rent received therefor to the university laboratories. As to the disadvantages attaching to the concentration method, Dr. Hunter knew of none; even the fears of its interference with the social life of the hospital and school have proved groundless, for the interest in the Students' Union and its many spheres of activity and in athletics has never in the history of the school been more active and intense. The *result has justified the* opinion expressed by Dr. Hunter in his last annual report, when speaking of these changes as constituting an experiment in connexion with university medical education, that the new policy meant not "the breaking *up of the school*, but the making up of the school." Dr. Hunter, *in the second part of his* report, went on to deal with the Problems of University Medical Education in London.]

The University of London and the School Hospitals.

Medical Education has been a welcome guest and has had *a free run in all the school hospitals from the* very first. This is in striking contrast to the experience of medical teachers elsewhere—*e.g.*, in *Berlin, the capital of Germany,* where all the hospitals refused to allow students to make use *of them, and early in its career (25–30 years ago) the* Government was in consequence compelled to build the great Charité Hospital of Berlin—*at first for its own war* purposes and *now* maintained for University purposes. Still *more in America up to the present time,* where the greatest difficulties are put in the way of medical schools by the governors of hospitals refusing or limiting their permission for students to attend. In return for their free use by the University, the *hospital governors in London have never* asked or received any material or other recognition from the University.

This freedom of the hospitals throughout the whole history *of English medicine forms the basis of the chief English* clinical traditions of medical education.

[Dr. Hunter here quoted several passages from the evidence of Mr. Abraham Flexner before the Royal Commission *showing that the clinical training is immensely* better in England than in any ordinary school in America, and that in some respects conditions are distinctly more favourable to the student than they are in Germany, concluding with the [illegible] to be nothing here materially [illegible] and particularly with the rela- [illegible] lucation.]

The Great Task of the London Schools in Medical Education.

How great the task of London medical education has been, and still is, is shown by figures and statistics which I placed before the Royal Commission. The medical schools of London, up to as recently as 20 years ago, were responsible for the entire medical education of no fewer than 70 per cent. of the total students of England and for the part-time education of another 10–20 per cent.—of no less than 80–90 per cent of the students in England, this number constituting no less than 42 per cent of the entire students of England and Scotland. Despite the formation of seven provincial Universities during the past 10–15 years, it still has to educate, in whole or in part, over 70 per cent. of [illegible] and over 40 per cent. of the tot [illegible] d Scotland. The medical sch [illegible] ischarged in the past, and still continue to discharge, a big task for English medical education, and they have done this under great and increasing difficulties without endowment and without the slightest pecuniary support from the university whose students they educate. What, then, is the chief *problem* presented by university medical education in London? It is represented to be the hospitals of London—their number, their intense interest in education, their multiple energies, *the difficulty of reconciling their existence* and their energies with the grafting on to them of another system of education [illegible] it is alleged, for the establish- [illegible] howing the defects of the British system from the educationist's point of view—viz., the need for the University to have complete control of its own hospital, to make England a contributing factor of the progress of medicine. Clinical teaching had failed to keep pace with laboratory improvements in medicine, and such productivity as had occurred had been in spite of the system. What was needed was greater prominence for the educational aspect of the training. London hospitals were disorganised as a whole and individually. A reorganised faculty would soon reorganise the wards.]

Here, then, the picture of English medical education as it is drawn by a distinguished American educationist (not a doctor) is sharply outlined. If the shadows are too deep in places and wrongly placed his object is the highly laudable one, beneficial to education, of directing attention to the existence of the picture at all—not necessarily to its completeness or absolute technical accuracy.

The problems facing University medical education in London, as here presented, are thus the following formidable ones: 1. To create, in the first place, a university which will be concerned and *financially able* to give any education at all to its students in their final hospital and school studies. For this the University of London has, so far, never done. 2. To create a *new Senate*, limited in number to 10 or 15 men, with the fullest financial, administrative, and executive control over the whole affairs of the University. 3. To create a new *Faculty of Medicine*—small, compact, and sufficiently business-like in its methods to be able to draw up a scheme, enter on negotiations with one or more hospitals, and induce them to hand their hospital over to them for university purposes. 4. As regards the hospital governors, the problem placed before them by the newly organised senate will be to allow this university faculty to modify their entire existing arrangements in some radical manner to suit university requirements—in short, to control the hospital; while the hospital managers continue, as before, to raise all the money necessary to keep the hospital going. 5 There is a further problem—most clearly presented by Sir William Osler in his evidence before the Commission. He was asked: "Supposing the hospital governors refuse to hand their hospital and its control over in the way suggested, what influence of a compulsory character could you bring to bear upon them?" and the reply was: "I do not know, Sir."

NATIONAL CHARACTERISTICS IN MEDICAL SCIENCE.

National characteristics play an important part in medical science as they do in all other spheres of human activity. They have played an all-important part in the development of English medical education and medical observation. In the case of English medicine, that characteristic has been *individualism*—shown in connexion with the foundation alike of hospitals and schools, and no less manifested by the individual philanthropy which originally created and still underlies and supports the English hospital system. In the case of Germany the national characteristic has, on the contrary, been essentially governmental and bureaucratic, all hospitals and medical faculties being supplied and maintained by combined State and municipal aid. In America there has been exhibited individualism—rampant to a degree quite unknown in the history of any country—condoned, connived at, and even legalised by a degree of recognition and support on the part of individual States and municipalities totally unknown in the history of medicine in this or in any other country.

MEDICAL EDUCATION IN AMERICA.

No greater service has ever been rendered to American medicine than the full, clear, and remarkable exposure recently (1910) given by Mr. Abraham Flexner of the proprietary nature of scores of the medical colleges, "institutes," quasi-universities, "national medical universities," "colleges of physicians and surgeons," &c., which for many years have given their M.D. in a frankly commercial spirit.

[Dr. Hunter here referred to the case of the "National Medical University," which according to Mr. Flexner, had "no equipment of any sort, and a dirty, unused, and almost inaccessible room as its dissecting room; and its 'hospital' consists of a top floor containing two lonely patients,'" yet it enjoyed from students' fees an (estimated) annual income of £4500.]

The evil of medical education in America—namely, individualism and individual "schools" and "colleges" run rampant—has been signally checked, and is in process of being in due course effectively arrested by a still greater individualism originally created by the munificent foresight of one philanthropist, Johns Hopkins, and given effect to by the brilliant imagination and practical genius of a young pathologist, Professor Welch, to whom at the early age of 28 was entrusted the unique task of formulating the conditions and selecting the professors for the first Faculty of Medicine to govern the new "Johns Hopkins Hospital and University" of Baltimore. His first selection was a young Canadian physician professor, educated in the McGill University of Montreal and in London in the best clinical traditions of English medicine, transferred to the University of Pennsylvania in Philadelphia, thence transferred to the Johns Hopkins University in Baltimore, and finally finding his present home in the ancient University of Oxford—Sir William Osler.

I have recently elsewhere, in the opening address of the McGill University, Montreal, in 1910, paid my tribute to the influence of these two great teachers on the science of medical education. "Under their inspiring spirit and guiding hand, supported by their enthusiastic colleagues and pupils, Anglo-Saxon medicine on the American-Canadian continent has shown itself capable of combining in a degree unknown to English medicine the scientific spirit underlying German work and methods with the great clinical practical outlook which throughout its whole history has specially characterised English medicine." That tribute paid three years ago, without any reference to the problem of medical education in London, has an interesting significance at the present time. For it practically embodies the *Leit-Motif*—the note of "Fate and Gloomy Sorrow" which runs through the whole of the evidence of the Royal Commission on the University of London with regard to medical education—the *motif* which has eventually determined their final recommendations. That *motif* is the excellence of English clinical traditions in hospital work; but the extraordinary defectiveness, insufficiency, inadequacy, absence of organised support, whether from Governmental and public services, or by public opinion, or by private generosity, for the provision for laboratory work and research necessary for the promotion of medical education or the advancement of medical knowledge.

What, then, was the antidote which these pioneer workers introduced into medical education in the United States as they found it in the "eighties," where it still exists—to a degree quite unknown in English medicine. It was the following: that Sir William Osler introduced the clinical traditions of clinical teaching—by the system of clerks and dressers in the wards and continuous relations with and observation of patients; while Professor Welch grafted on to that system the all-essential, supporting, educational, and progressive system of great laboratory institutes created on the lines of German methods and example. This was possible in their case, for they had a clean slate to write upon—a free hand both as regarded money for their hospital and school and as regarded the organisation which they saw fit to adopt.

THE ROYAL COMMISSION'S PROPOSALS.

The proposals now submitted in evidence before the Royal Commission on University Medical Education in London and ultimately adopted and recommended by the Commission are shortly—that similar organisation is necessary to create the proper conditions for placing hospital education in London on a university basis.

Inasmuch as the chief basis of the English system is the clinical traditions of hospital education—the system of clerks and dressers and facilities for hospital work and assistance always freely granted by hospital authorities in this country is admitted by all to be immensely superior to the system obtaining in any other country—it might be thought to be perfectly easy and practicable to graft on to this system for university purposes the laboratories, professors, and assistants necessary to supplement and complete the system. I think myself that that is perfectly practicable, and the matter, having now been referred to a strong Departmental Committee of the Board of Education to draft a Bill to carry this into effect, so far as this portion of university education is concerned, I am quite prepared in common with everyone interested in placing university education on a sound basis in London, to afford them every help in my power. The character of the Departmental Committee is, to my mind, a sufficient guarantee that the distinctive national characteristics and honourable traditions of English medicine (which have been far more fruitful in advancing medical knowledge than some of the sweeping generalisations submitted by witnesses before the Commission realise) will have due weight attached to them.

Still more I am satisfied that the widely different conditions of hospital management and support peculiar to this country and quite unknown to Germany and institutions like the Johns Hopkins Hospital and a few American hospitals—to wit, the voluntary public charitable support and government of the hospitals in this country as contrasted with the State, municipal, bureaucratic control of the German, and the endowed support and control of the newer American hospitals and universities, like the Johns Hopkins—will be better known to, and more fully weighed by, that committee than they could possibly be known to, or weighed by, witnesses unacquainted by practical experience with their working.

To pour new wine into old bottles is proverbially a risky business—which it is said no wise man would attempt to do. To pour a German full-bodied wine compounded of full control of the Minister of Education, Exchequer control in connexion with insurance money, municipal control, and autocratic directing control of two or three professors over the whole of a hospital and of all the laboratories connected therewith, would certainly burst the old bottles (quite decent and useful ones) of the entire voluntary system of hospital support and government existing in this country.

The problem is one of the greatest difficulty. So far from subjecting the Commission's Report to criticism, with regard to the individual recommendations, my own opinion is, *after the closest perusal of the whole volumes of evidence* submitted, that a satisfactory solution of the whole problem of University Reform in London, including that of Medical Education, is to be found in connexion with its fundamental recommendations, in my judgment admirable in character. These are:—(1) Government of the University Court; (2) its *Finan* [illegible] compact and [illegible] of an unwo [illegible] ndependent *and, in many cases, opposing interests*); (3) the creation of a small compact Faculty of Medicine, not merely advisory, but made responsible for the Educational arrangements and provisions subject only to the control of the Senate so far as their Regulations affect the finances of the University.

FINANCIAL NEEDS OF MEDICAL EDUCATION.

The needs of a school are determined by the requirements of full-time students, who are engaged in work in the school and hospital all day. Part-time students, who come for shorter periods of time, share in the arrangements thus provided to their own great advantage, and contribute to the support of the school. 1. To place medical education on a sound basis the fees thus earned, plus any educational grants given by the Board of Education, should be entirely available for the education of the students and for payment of lecturers and demonstrators. On the basis of what is being done in German universities and a few of the schools in America, to which so much attention has been drawn as examples of what the standard of university education should be, these ought to constitute about one-third of the total annual cost of a student's medical education. 2. But this alone is quite inadequate. In addition there is required money for the provision, equipment, and support of the laboratories required for instruction and for payment of the salaries of the professors in charge of the various departments. The amount required for this is about the same as that earned in fees. 3. And, lastly, over and above these requirements there should be a third quotient connected with medical education, available for the promotion of research in the various departments.

ANNUAL EXPENDITURE PER STUDENT.

I estimate, on the basis of *practical* experience, *that the* current annual expenditure for university medical education in London should work out to at least £70 to £80 a year per degree student, or *approximately £80,000 to £100,000* a year. No provision approaching this is available in any of the medical schools of London. It means that two-thirds of the cost of education *must come from sources other* than fees. Owing to the absence of any adequate support from the State, university, or municipal or any public sources, no such funds are available.

The requirements here stated may seem to be large and costly even for a rich country like England. Nevertheless, *they fall below the actual expenditure on medical education* in the universities of Germany. According to official figures supplied by the German Government, the actual expenditure in *10 universities in Germany* amounts to no less than £95 per student, and a total sum of over £500,000 per annum.

COMPARISON BETWEEN A GERMAN AND A LONDON SCHOOL.

[Dr. Hunter then compared the expenditure at the University of Königsberg (370 medical students) with one of the largest London schools (353 full-time and 170 part-time students). The German expenditure was £34,000, or £92 per student annually; the English £14,000, or £40 per student. The State in Gerr [illegible] £63 per student; the Board of [illegible] or £13 per student. Further, [illegible] tributed £29; there was no university contribution in England. The departmental expenditure in the German university was £24,500, of which £14,000 were for clinical salaries, teaching, and work; in the English school £6000, of which only £1500 were available for clinical teaching.]

There is not much comforting in this contrast either to the English Government or English public opinion. In my opinion the financial conditions of medical education in this country are a discredit to all parties concerned, except only the medical schools and their devoted band of teachers who support the whole cause of medical education in London on behalf of 70 per cent. of the total students of England, under greatest difficulties, without financial support, without recognition, and without even sympathy.

If I might venture to make any criticism on the Final Report of the Royal Commission it would be that this financial aspect of medical education in London has not been brought out in connexion with the comparisons of a startling and invidious character between English medical education and German medical education to which so much weight has been attached. The prosperity of university medical education in London would be enormously promoted by providing three to nine professors in certain selected schools of London, each of them with £4000 *at its disposal for* the development of medical and surgical science and teaching in the University, as proposed by the Royal Commission. The total sum of £36,000 a year thus *provided for salaries and working expenses* would not, however, solve the problem which it is sought to solve—salaries to full-time professors and their assistants, and the providing and maintaining and paying adequate scientific and final laboratories connected with the schools selected. It is little more than that referred to in the expenditure on one moderate-sized German university. And this is apart from any capital outlay necessary for the provision of new laboratories.

[Dr. Hunter *next compared the annual current expenses* of 10 medical schools in London with 1122 full-time and 765 part-time students, with those of the Medical Faculty *of the University of Berlin with Charité Hospital (2000* students), and the respective State grants in each case, showing the grant to be about £12 per full-time student in *London as against £49 in Berlin.*]

THE BOARD OF EDUCATION AND THE MEDICAL SCHOOLS.

Small as this grant is *relatively, it has been of the most* material help to every school which has been in receipt of it. In the case of the Charing Cross School, as I can testify [illegible] *it has made all the difference in* [illegible] which [illegible] to the *University, to King's College, and to the school.* The increase of efficiency, equipment, laboratory accommodation, facilities for teaching and research which it has helped to *bring about for the benefit of 250 students of the school and* the University laboratories who have had the advantage of them during the past year has been very great. Apart from *the amount of the grant* itself, and the increased efficiency thereby produced, it has given the school great encouragement to know that for the first time in their history a great public department of the State is interested in their work for medical education and the provision made for carrying it out effectively.

It is *only some* four or five years since the Board first began to make their grants. The information which they have yearly before them, and which they so carefully analyse and report, has been of the greatest service to the cause of medical education and its university reform—the facts brought out have given the greatest stimulus to better efficiency which the medical schools in their history have ever received.

Here, then, the picture of English medical education as it is drawn by a distinguished American educationist (not a doctor) is sharply outlined. If the shadows are too deep in places and wrongly placed his object is the highly laudable one, beneficial to education, of directing attention to the existence of the picture at all—not necessarily to its completeness or absolute technical accuracy.

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Still more I am satisfied that the widely different conditions of hospital management and support peculiar to this [illegible] bers, For [illegible] the dis- [illegible] It is not unlikely that the [illegible] field may receive a practic [illegible] this subject we may help to [illegible] immense sanitary gain in the field, and thereby a most valuable asset to the nation. At the risk of wearying you I should like to make further calls upon our members with a view to producing papers upon other subjects which may bear upon the health of the sailor or the soldier, and would ask those who have studied any problem likely to be of benefit to the Services not to hesitate to bring such before us. I feel sure that they will be welcomed heartily and that discussion will help the authors, while it widens the scope of thought of every individual.

And here I would ask members who may be diffident because they are junior in rank not to permit such false modesty to restrain them from joining in our discussions, and if they have no superlative opinion of their own intelligence, I would remind them that this society is not official. They will lose nothing by making their thoughts known. The words of thinking men of all ages are worth due consideration, and therefore I hope that all who have studied any medical problem, besides those I have touched upon, will express freely any opinions or experiences they feel would give completeness to our discussions. They will add thereby to the value of our deliberations, and extend our scope of usefulness.

HARD v. SOFT WATER.

By JOHN C. THRESH, M.D. VICT., D.Sc. LOND.,
MEDICAL OFFICER OF HEALTH OF THE COUNTY OF ESSEX.

IN the annual report for the county of Essex for the year 1910 I gave a series of statistics showing that (1) in the areas supplied with hard water the death-rate is quite as low as, if not actually lower than, that in the areas supplied with a soft or moderately hard water; and that (2) filtered river water, even when the river water impounded is known to be more or less sewage-polluted, is as wholesome as the water from the deep wells and springs in this county. These conclusions were based upon the statistics for one year only. The report proved of such interest that more copies were applied for than I could supply, and the applications were not limited to this country, the subject being one of equal importance in all parts of the world. When the Census returns for 1911 were received and the Registrar-General supplied me with factors for the correction of the death-rates on account of differences in age and sex distribution of the population in every district of the county, I decided to again consider the subject and take a period of five years as the basis for comparison. The results now given, therefore, are much more reliable than those published in 1911, but they support entirely the conclusion at which I then arrived.

The areas taken are exactly the same as before with the exception that in Group IV I have included the Romford rural district. The reason for this is that it is decidedly urban in character and the great bulk of the population is supplied with the same water as that used in the Romford urban district.

Besides giving the average death-rates for the five years 1907–11 (inclusive) I have also given the death-rates for 1912, all corrected.

GROUP I.
(Hardness of water supply under 10° per 100,000.)
Soft Water Area.

	Averages for years 1907–11.		Year 1912.	
	Population.	Death-rate per 1000.	Population.	Death-rate per 1000.
Burnham	3,150	8·9	3,200	11·5
Leigh-on-Sea ...	7,100	10·1	8,550	10·7
Maldon	6,100	11·0	6,335	11·5
Shoeburyness ...	4,800	10·3	5,075	8·7
Southend-on-Sea	56,200	11·2	67,280	9·7
Totals and averages	77,350	11·0	90,440	10·0

[illegible]

(Hardness of water supply between 10° and 20°.)
Moderately Hard Water Area.

	Averages for years 1907–11.		Year 1912.	
	Population.	Death-rate per 1000.	Population.	Death-rate per 1000.
Braintree	6,100	12·8	6,170	13·3
Brightlingsea ...	4,500	10·7	4,390	12·1
Colchester	41,890	12·1	44,160	10·7
Saffron Walden ...	6,230	9·7	6,350	7·6
Witham	3,470	10·3	3,420	14·0
Wivenhoe	2,400	7·9	2,500	10·4
Totals and averages	64,090	11·5	67,030	10·9

These country towns all derive water from sources similar to Group I., but the Colchester deep well supply is supplemented by water from gravel springs.

GROUP III.
(Hardness of water supply 20° to 30°.)
Hard Water Area.

	Averages for years 1907–11.		Year 1912.	
	Population.	Death-rate per 1000.	Population.	Death-rate per 1000.
Clacton	9,300	12·0	9,830	9·2
Chelmsford ...	17,000	9·2	18,300	8·9
Epping	4,150	9·1	4,300	7·1
Frinton	1,400	8·0	1,570	8·5
Walton	2,150	9·9	2,190	9·9
Harwich	13,200	14·1	13,970	12·9
Halstead	6,200	12·0	6,300	9·0
Totals and averages	53,400	11·2	56,430	9·9

The Clacton supply is from springs, as is also a small proportion of the Chelmsford supply. The remainder derive *water from deep wells in the chalk.*

GROUP IV.
South Essex Area.—Moderately Hard Water.

	Averages for years 1907–11.		Year 1912.	
	Population.	Death-rate per 1000.	Population.	Death-rate per 1000.
Barking	30,770	13·0	32,520	10·6
Brentwood ...	6,600	8·8	6,940	6·2
Grays	15,810	11·0	16,420	10·7
Romford	16,550	10·2	17,600	9·5
Romford Rural ...	23,860	10·5	26,000	9·3
Totals and averages	93,490	11·2	99,480	9·9

These localities are all supplied with chalk water by the South Essex Water Company.

GROUP V.
Metropolitan Water Board Area.—Hard Water.

	Averages for years 1907–11.		Year 1912.	
	Population.	Death-rate per 1000.	Population.	Death-rate per 1000.
Buckhurst Hill	4,800	10·2	4,900	9·1
Chingford	6,500	8·55	8,000	8·9
East Ham	126,600	12·1	133,450	11·1
Leyton	122,100	10·4	123,700	10·8
Loughton	5,300	9·7	5,500	10·8
Waltham Cross .	6,650	11·35	6,830	10·0
Walthamstow .	118,500	11·6	123,480	10·4
Wanstead .. .	13,200	8·5	15,700	7·2
Woodford	17,050	9·3	19,070	9·4
Totals and averages	421,300	11·1	454,310	10·6

Summarising the tables we obtain the results as under:—

	Death-rate per 1000, 1907–11			Death-rate per 1000, 1912.		
	Average	Extremes.		Average.	Extremes.	
		Maximum.	Minimum.		Maximum.	Minimum.
Soft water area	11·0	11·2	8·9	10·0	11·5	8·7
Moderately hard water areas—						
(a) Country towns	11·5	12·8	7·9	10·9	14·0	7·6
(b) South Essex area	11·2	13·0	8·8	9·9	10·7	6·2
[illegible]	11·2	14·1	8·0	9·9	12·9	7·1
[illegible]	11·1	12·1	8·6	10·6	11·1	7·2

Arranged in order of death-rates we obtain the following interesting results :—

Average for 1907-11.

Soft water area	11·0	per 1000.
Hard water area (metropolitan)	11·1	"
" " " (country towns)	11·2	"
Moderately hard water area (South Essex) ...	11·2	"
" " " " (country towns)...	11·5	"

Average for 1912.

Hard water area (country towns)	9 9	per 1000.
Moderately hard water area (South Essex) ...	9 9	"
Soft water area	10 0	"
Hard water area (metropolitan)	10 6	"
Moderately hard water area (country towns)...	10 9	"

Naturally there are greater variations in the rates for single years than in the rates for a series of years, but it is obvious that there is no co-relation in either tables between the hardness of the water and the death-rates.

Taking the average for the five years the difference between the death-rate for the area with the softest waters and the area for hardest waters is, in one instance (the metropolitan area), only 0·1 per 1000, and in the other (country towns) only 0·2 per 1000, whilst the moderately hard water areas taken together have a death-rate exceeding that of the hard water areas of from 0 1 to 0·2 per 1000. These differences are so slight that only one conclusion can be deduced—namely, that the character of water-supplies in this county has no effect upon the death-rates.

Incidentally they also confirm the opinion expressed in my previous report that the filtered water from the sewage-polluted rivers, the Thames and the Lea, is as wholesome as the water from our very deep wells and gravel springs. As comparatively little water is taken from springs we may say that the filtered river water is as wholesome as the water from our deep wells, which are celebrated for their great organic purity.

In the report for 1910 I also showed that the incidence of cancer, phthisis, and enteric fever bore no relation to the water-supplies. The statistics for the five years are as under :—

Death-rates from Various Diseases in the Respective Water Areas for the Five Years 1907–11.

	Cancer.	Phthisis.	Enteric fever.
Soft water area	1·0	0 99	0 043
Moderately hard water areas—			
(*a*) Country towns	0·84	0 81	0 021
(*b*) South Essex area	0·86	0 90	0·121
Hard water areas—			
(*a*) Country towns	0·81	0 75	0 04
(*b*) Metropolitan area	0 83	0 81	0·041

The excessive mortality from cancer and phthisis in the soft water area is entirely due to that area including a large and populous seaside resort, and the medical officer of health has shown that fully 25 per cent. of the people who die there from these diseases were actually suffering therefrom when they entered into residence. In fact, they came to reside there in the hope of becoming cured or of prolonging life. When this excess is allowed for there is no excessive incidence in the soft water area.

The tabulated results afford no indication whatever of the hardness or softness of the water having any bearing upon the prevalence of or mortality from any of the three above-mentioned diseases.

It is important to note, however, in connexion with this investigation that the soft waters of Essex differ materially from the soft moorland and upland waters so widely used for the purposes of public supply. These waters contain very little saline matter and often contain so much free carbonic acid as to render them "acid" in character. The soft Essex waters contain no free carbonic acid, and all contain marked quantities of sodium bicarbonate, and may therefore be said to be "alkaline" in character. The inquiry therefore shows that such alkaline waters are perfectly wholesome, as wholesome, in fact, as waters from any other source.

Chelmsford.

LONDON HOSPITAL MEDICAL COLLEGE.—The following Entrance Scholarships have been awarded :—Price Scholarship in Science, £100, O. S. Cloake; Price Scholarship in Anatomy and Physiology for students of the Universities of Oxford and Cambridge, £52 10*s*., L. G. Jacob, of Christ's College, Cambridge; and Science Scholarship, £50, G. Adler.

ARTERIO-VENOUS ANASTOMOSIS FOR IMPENDING GANGRENE;

A REPORT OF 15 CONSECUTIVE CASES WITH ARTERIO-VENOUS ANASTOMOSIS OF THE FEMORAL VESSELS.

BY DR. CHARLES GOODMAN.

THE employment of arterio-venous anastomosis as a clinical procedure has given such widely different results in the hands of different operators, and has led to such a divergence of opinion on the part of these various operators as to the possibility of establishing a reversal of the circulation, that we have attempted the procedure in 15 cases in order to throw some light on the subject; we believe this to be the largest number of cases yet reported from a single source.

In a review of the literature by Halstead and Vaughan, published in January, 1912, they recall that Frank in 1881 was the first man to attempt an arterio-venous anastomosis. Since then many attempts have been made to produce a satisfactory arterio-venous anastomosis in animals, but without success, until in 1902 Carrel reported his perfected technique, and later in 1905 his work with Guthrie. It is the work of Carrel more than that of any other man that has led the surgeon to employ this procedure on the human being. Stich, Touffier, Frouin and Watts, Cottard and Leriche, and others have since then reported successful anastomoses in animals.

The first attempt to perform arterio-venous anastomosis in man was made by San Martin y Satrustegui in 1902, which proved unsuccessful. In 1912 Bernheim, of Johns Hopkins Hospital, reported 6 operations with 4 successes, and in his review of the literature reports and tabulates 52 operations which were performed by 32 operators; of these, only 15 were successful. End-to-end suture according to the method of Carrel was employed 23 times with 8 successes; lateral 12 times with 4 successes; invagination, end of artery into end of vein, twice with 1 success; intubation according to the method of Wieting, 9 times with 2 successes. Bernheim ascribes the large number of failures, first to the large number of operators; secondly, to the fact that a number of the cases were seen late in the course of the disease; and thirdly, that vascular surgery is still in its infancy and offers many technical difficulties.

The possibility of establishing a reversal of the circulation in an extremity has been questioned by Coenen and Wiewerowski, who have presented an array of experimental work against the practicability of the procedure. These views, however, as to the impossibility of the procedure on physiological grounds have been controverted by 15 successful cases.

As to indications, arterio-venous anastomosis is applicable in angeiosclerosis and in arterial thrombus, where the integrity of the limb may be preserved by this means until collateral circulation is established. In regard to methods, end-to-end anastomosis offers the most simple technique and is least likely to be followed by thrombosis.

We have tried the operation in 15 cases, and in this series we noted that the foot, previously cold and cadaverous in appearance, took on a feeling of warmth and a healthy pink colour. The valves of the veins were only a temporary barrier to the course of the blood against the constant pounding of the heart. The pain due to ischæmia was relieved shortly after the operation in all these cases. Strongly presumptive evidence of establishing a reversal of the circulation are the following facts: improvement of colour, increase of warmth of the affected part, relief from pain, filling of the superficial veins, pulsation of veins below site of anastomosis, and return of part threatened with gangrene, or the actual seat of gangrene, to the normal. All writers seem to agree that angeiosclerosis of the lower extremity is an ascending process and leads eventually to gangrene.

A review of our cases shows 6 successes. Several of these cases which promised success required amputation later, but even these had temporary relief from pain. In our experiments upon animals we have tried all the usual methods of anastomosis—end-to-end, side-to-side, end-to-side, intubation, and invagination. In our operations upon human beings we have used the end-to-end method in all excepting one case, as we found it the simplest in execution and least likely to cause thrombosis. The operation should not be undertaken in the presence of sepsis, advanced or fulminating gangrene. The opportune time for intervention is in the pre-gangrenous stage before mortification has set in, in order to prevent its inception. In non-septic gangrene the improved nutrition of the limb may be hoped for, permitting lower amputation than would otherwise be possible, as is shown in several of our cases.

The utmost delicacy and skill in minute detail must be observed in order to avoid the formation of thrombi; a most rigid asepsis is required throughout the operation, or the object of the operation will be defeated. To reduce the dangers of thrombosis to a minimum we have practised the following *precautions. Before the sheath of the vessel is* opened the wound must be absolutely freed from, and dried of, any visible signs of blood, and then covered with sterile wound protectors. For this purpose we have used various materials and have found that a thin, black, oriental silk is best suited to this purpose; this material adapts itself to the wound without encroaching upon the operative field, and the colour removes the glaring and trying effect of the open wound upon the eyes of the operator during the more minute details of the operation.

The etiology of the condition which requires this operation *is still obscure. With a view of throwing some light on the* subject we have enlisted the coöperation of the laboratories of the hospital, and hope in the future to be able to advance some information regarding the disease. We can only hope that the operation will relieve the symptoms, arrest impending gangrene, and save the limb

As an instance I will cite briefly the first one of our cases.

The patient, a man aged 35, referred to me by Dr. I. Seff, was admitted to Beth Israel Hospital on July 17th, 1912, with endarteritis of the left leg, nec[illegible] the shin. He ha[illegible] for which an amp[illegible] swollen and the [illegible] an ulcer appeare[illegible] refused to heal.

When the patient was re[illegible] with great difficulty. The [illegible] natural size, was dusky i[illegible] necrotic, being extremely p[illegible] of the limb was followed [illegible] limb was suspended it bec[illegible] the size of half a dollar occ[illegible] shin. Pulsation could not be felt below Scarpa's triangle, [illegible]

Arterio-venous anastomosis of the femoral vessels was performed on [illegible] d the [illegible] to be [illegible] rses, [illegible] laced [illegible] a con [illegible] was [illegible] iched appearance changed to a pink colour and his pain was immediately relieved. On July 24th (the third day) the patient said, "I am more comfortable than I have been for a year." On the fourth day the dressings were opened to inspect the limb, and very much to our [illegible] limb became m[illegible] wound, which [illegible] evidences of [illegible] followed by a [illegible] pressure on the vessels, for after it was evacuated the œdema disappeared and the toe began to heal. (This fluid was undoubtedly due to an excessive amount of vaseline which I had used during the opera-[illegible] e was entirely [illegible] iscomfort and [illegible]

The ages of our cases varied from 28 to 87 years. There were 13 end-to-end anastomoses, 1 side-to-side, and in 2 of the cases an exposure of the vessel showed that an attempt to anastomose was not warranted on account of the advanced stage of thrombosis of the vessels. In 2 of our cases with gangrene a low amputation seemed to be satisfactory. Of the 8 cases which were failures, including 1 death, 1 was a side-to-side anastomosis, and 3 of the remainder should not have been operated upon on account of the presence of *spreading gangrene.*

The predisposing factors in the causation of the symptom-complex of the disease and the results so far obtained by operation warrant us in believing that, whenever the operation is undertaken before gangrene has actually set in, the distressing symptoms can be relieved without the sacrifice of the limb to amputation, which heretofore has afforded the only means of relief.

In conclusion, I should like to emphasise that in the absence of infection, even if the lines of the vessels are not evenly approximated, the chink will be filled in with blood clot. As long as this minute blood clot does not project into the lumen of the vessel there is no accretion and it does no harm. Fibrous connective tissue will grow in and organise the blood clot, and the cells which finally reach the surface will *become competent as endothelial cells.* In other words, a foreign body in blood-vessels, such as a suture, if it is contaminated with ferment, will produce thrombosis. This is exactly what has been attempted in the treatment of aneurysm with electrolysis; the current kills a certain number of blood cells, a certain quantity of ferment is liberated, and accordingly a certain degree of thrombosis is produced. The secret therefore, of suturing blood-vessels and retaining the normal continuity of the vessels is to render the operative field as free as possible from thrombo-kinase.

New York.

FORMATION OF AN ARTIFICIAL VAGINA BY TRANSPLANTATION OF A PORTION OF THE ILEUM (BALDWIN'S OPERATION);

WITH REMARKS ON THE ETHICAL ASPECT OF THE PROCEDURE.

BY VICTOR BONNEY, M.S., M.D., B.SC. LOND.,
F.R.C.S. ENG., M.R.C.P. LOND.,
SURGEON TO THE CHELSEA HOSPITAL FOR WOMEN; ASSISTANT GYNÆCOLOGICAL AND OBSTETRIC SURGEON TO THE MIDDLESEX HOSPITAL; GYNÆCOLOGICAL SURGEON TO THE MILLER GENERAL HOSPITAL, GREENWICH-ROAD, S.E., ETC.

THE surgical treatment of congenital absence of the vagina was extremely unsatisfactory until the American surgeon Baldwin introduced the operation associated with his name, whereby a piece of the ileum transplanted between the bladder and rectum is made to do duty for the missing canal. The method surmounts the chief difficulty that beset all former procedures—namely, the extreme liability for the artificial vagina to contract and prove useless for coitional purposes.

The ethical aspect of the operation provides a wide field for individual opinion, for though its result achieves fitness for the *sexual act, sterility must remain in spite of it in the* vast majority of cases. Before, however, embarking on this subject I will relate the details of the following case:—

History.—The patient, a girl aged 19 years, was brought to me in 1912. She was stout, well grown, and good looking, and externally all the feminine characteristics were well developed, but she had never *menstruated.* On account of the amenorrhœa her mother took her to a practitioner, who found complete absence of the vagina. She was sent into a hospital under a gynæcological surgeon, who dis-[illegible] umbilicus. On exploring I found both ovaries unusually well developed, one of them containing a large recently dehisced follicle. The upper ends of both Mullerian ducts were well formed, a mesosalpinx and the ampullary segment of the tube with the fimbri [illegible] present on either side, but below this they [illegible] solid cords which after joining with the round [illegible] in the middle line to form a little nodule of [illegible] the bladder. The terminal portion of the ileum was pulled up and a loop of it chosen about eight inches long where the mesentery was found to be longest; the centre of this loop was about ten inches distant from the ileo-cæcal valve. This loop was then isolated by dividing the bowel at either end of it, closing those ends by suture and restoring the continuity of the intestine by an end-to end anastomosis The mesentery was then divided nearly down to its base in a V shaped manner, so that the isolated segment of ileum merely remained attached by a narrow pedicle The edges of the mesentery in the continuity of the bowel were brought together by sutures An assistant now pushed upwards the forceps previously placed in the site of the future vagina, and the little nodule representing the union of the Mullerian ducts and the rest of the tissue over the forceps was divided until they could be pushed into the peritoneal cavity. The isolated loop of ileum was now seized at its middle and pulled downwards into the vaginal site until the part held by the forceps appeared at the vulva. This was the difficult part of the operation. The patient was very fat, of the stout "cobby" build, and the mesentery was short Moreover, I had isolated an unnecessarily long segment of the gut. It was not until I had shortened this considerably and further divided the mesentery holding it that I was able to get it entirely into position. The peritoneum between the bladder and rectum was now stitched over it and around its mesentery, and the abdominal wound was closed in the usual way. The patient was now placed in the lithotomy position again, and the loop of gut opened at its apex attached by interrupted sutures to the edges of the vulval wound, and lightly packed with gauze

Result.—The patient made a good recover [illegible] survived and adhered. For some weeks the [illegible] vaginal dilators was practised, but when it [illegible] contracture was going to occur this was desisted from.

The local condition now is that of a septate vagina, each limb of which easily admits the finger. I had intended dividing this septum to make a single canal as practised by Baldwin, but when I last saw the patient it had retracted considerably to form a spur, and I therefore decided to leave it alone. If she marries and the spur gives rise to difficulty, it can easily be divided. The canal appears at present to be sufficient for coitus; it is quite free from pain or tenderness. Since the operation the patient has had a watery mucous discharge, yellow in colour and flocculent in appearance, but this is much less than it used to be The depression has disappeared and she is bright and cheerful.

Those interested in the surgery of congenital absence of the vagina should read Balfour Marshall's admirable review of the subject in the twenty third volume of the *Journal of Obstetrics and Gynæcology of the British Empire.* He there points out that 15 cases of ileum transplantation have been performed, 11 by Baldwin's method and 4 by that of Mori, which only differs from that of Baldwin in that he uses a single instead of a doubled up loop of the intestine All the cases recovered. That a very definite risk attends the operation is, however, not to be denied.

The Ethical Aspect of the Operation.

Turning now to the ethical aspect of the operation certain authorities hold that where childbearing is impossible the procedure, merely to enable coitus to take place, is unjustifiable. I cannot agree with this view, which assumes that the whole object and usefulness of marriage lies in child-bearing. From the racial aspect it is no doubt true, but there are other points of view, the social and the personal, which much more directly influence the individual. That married life may be happy and useful though the wife is obligatorily sterile is common experience. Many women have married after hysterectomy, or even double oöphorectomy and yet enjoyed connubial felicity. To a certain proportion of men the fact that their wife cannot have children is no drawback, and though marriage when sterile is a failure as far as regards the race, yet if it brings happiness to the parties concerned it has a very definite social and individual value To condemn the unfortunate sufferer from this deformity to abandon for ever the natural hope of some day meeting with a companion and support in the battle of life therefore seems to me to be wrong.

On the other hand, it is important to bear in mind that in a certain proportion of these patients the ovaries are undeveloped and the sex sense wanting. Intercourse in the absence of sexual feeling on the part of the woman is very apt to be unsatisfactory even with a normal condition of the parts. Much of the domestic unhappiness that the practitioner sees has it origin in this cause.

In children.—The construction of an artificial vagina should never, therefore, be undertaken until after puberty, for not till then can the fitness of the woman for marrying be estimated or her wishes on the subject consulted.

In unmarried women.—In the larger number of cases of congenital absence of the vagina the girl is brought to the medical man merely because the menses have failed to appear and not because she is suffering either physically or mentally or because marriage is in contemplation. Examination reveals absence of the vagina, a rudimentary condition or complete absence of the uterus, and not infrequently undeveloped ovaries. In my experience these patients are usually conspicuously healthy. Under circumstances such as these no operation is indicated, and, indeed, it will be found that neither the patient nor her parents have any wish for it directly they are satisfied that the absence of the monthly periods is not detrimental to health. The state of affairs ought, however, to be made clear to the mother if possible, and the feasibility of partly overcoming the results of the deformity should marriage be contemplated should be explained to her. For future guidance inquiry should be made as to whether monthly sensations indicative of a "period" (and therefore of functional activity of the ovaries) are noticed by the patient.

There is another class of case, however, in which an unmarried girl is brought to the practitioner, either because (1) the deformity is giving rise to physical suffering owing to retention of menstrual blood in the uterus; (2) marriage is in contemplation; or (3) the knowledge of the deformity is producing mental symptoms.

1. Cases of hæmatometra due to absence of the vagina are very rare, because in most instances the deformity is associated with a non-development or a complete absence of the uterus. There can be no doubt that it would be possible to combine Baldwin's operation with implantation of the uterus into the transplanted segment of ileum, but the procedure has never yet been carried out. An alternative would be to perform Pfannenstiel's operation, in which, after loosening the uterus, the organ is [illegible] rectum and bladder and the cerv [illegible] mucous membrane. Unfortunately, most of these cases present themselves late and after the retained blood has led to hæmatosalpinx and pelvic peritonitis. Under these conditions an attempt to conserve the uterus would be a mistaken policy, and it would be better to remove it.

2. Where marriage is in contemplation the question of the propriety of the operation requires careful consideration. The character of the patient, the degree to which she desires marriage, her fitness for that state as evidenced by a history of menstrual molimina and the possession of normal sex feelings, should all be inquired into, and the nature of the operation and its limitations and risk must be explained to her. The wishes of the parents must also be consulted, whilst as regards the fiancé it would be best for the medical man himself to explain to him the state of affairs. Where a consensus of opinion in favour of the operation is arrived at by the interested parties the operation is, I think, entirely justifiable.

3 Where the knowledge of the deformity is producing mental symptoms, as in the case I have just recorded, and where after full explanation both the girl and her parents are agreed in desiring the operation, it is, in my opinion, right to perform it

In married women—Finally, we come to that class of patient in whom marriage has occurred before the deformity has been recognised, when remedial measures may be sought for: (1) as a sheer act of self-sacrifice on the woman's part, she herself having no sexual desire; or (2) to satisfy the sex sense of both parties.

1 It has been pointed out that a proportion of these patients are sexually deficient, and that under such circumstances the mere provision of a coitional vagina is not likely to be satisfactory from the marital standpoint. Where the patient asks for the operation solely under pressure of her husband's desires, I am of opinion that both he and the surgeon who performs it incur very grave responsibility. Sad cases of this type are sometimes met with Some years ago a patient was sent to me with the following history. She married without knowing her disability. In spite of it, however, her husband was faithful and they lived together happily. They adopted a little girl as they could

have no children of their own. When this girl grew up illicit relations became established between her and the husband, who deserted his wife to go and live with her adopted daughter. The unfortunate woman believed that rectification of her deformity would be the means of bringing her husband back to her. I, of course, refused to operate. No man whose affection was real and worth keeping would entertain the idea of his wife risking her life solely for his gratification. In the case of such individuals the divorce court provides the proper solution of the difficulty.

2. Where, however, the sex sense of the woman is active, and she desires the operation not merely to satisfy her husband but for her own gratification as well, the case is different, and if after the nature, limitations, and risks of the procedure have been explained to the parties the patient elects to undergo it the surgeon is, I think, entirely justified in performing it.

Devonshire place, W.

THE USE OF ATROPINE TABLETS FOR THE DETERMINATION OF REFRACTION IN CHILDREN.

BY FRANK MOXON, M.B., B.S. DURH.,
CHIEF CLINICAL ASSISTANT AT THE ROYAL LONDON OPHTHALMIC HOSPITAL.

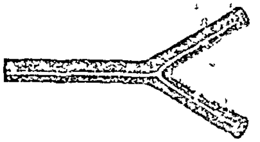
SINCE first undertaking the treatment of London County Council school children in the special department set apart for these cases at the Royal London Ophthalmic Hospital (Moorfields) in 1910, I have for varying periods made use of tablets of atropine for refraction, and have done so continuously since September, 1912. Ever since then I have been increasingly convinced both of the convenience and of the efficacy of this means of effecting paralysis of accommodation in children. In this short paper it is my wish to give a brief account of my experience with this method in the hope that more will be led to give it a trial.

In most hospitals and school clinics atropine is still ordered for children in refraction cases, either in the form of an ointment or of solution containing from 0 5 per cent to 1 per cent of atropine. The directions given for its use in these forms show a diverse and uncertain opinion as to the *time necessary to obtain paralysis of accommodation*; in the majority of cases ointment or drops are ordered to be used twice, three, or even four times a day, for anything from two, more often from four to seven, or even 14 days before the refraction is estimated. I contend that this practice is quite unnecessary, and a not inconsiderable waste of both time and expense, not only to the parents or guardians, but also to the hospital

In justification of this custom of giving atropine one is told that it is the most convenient method, and that it is a saving of time. It may be so if the one who orders the ointment or drops does not also do the refraction on the return of the child, but in no other circumstances; and in any case I consider that the fact of the child and guardian having to make a second visit in order to save this time is a matter which in many cases entails no little hardship and expense to those who are least able to afford it. The only other argument advanced in favour of the use of ointment or drops at home for several days is the one that unless atropine is used for several days complete paralysis of [illegible] ined in all cases. I have never [illegible] ed by anyone who has given the [illegible] trial, and I am convinced that [illegible] would be satisfied that it is not only unnecessary, but a positive waste of time to do otherwise. For those who have not tried this method I will give a few details as to the use of the tablets.

First of all I may say that I have always used Messrs. Burroughs Wellcome and Co.'s ophthalmic "tabloid" brand of atropine sulphate, and have always found them highly satisfactory, combining as they do all the merits that an ophthalmic tablet should do—namely, speed in dissolving, accuracy of dosage, reliability in action, non-friability in handling, and a power of keeping for a long period, some that I have used having been in stock for several years. I have used the foll ing strengths—namely, 1/500 grain, 1/200 grain, 1/100 grain—and find that the 1/200 grain tabloid is a satisfactory strength for the purpose. The application of ophthalmic tablets to the eyes is, perhaps, the one part of this method which some will at first find difficult, and I hope that a few words on this will not be out of place.

After the routine external examination of the eyes, including the subjective test for distant and near vision, has been carried out, I take two tablets in the palm of my left hand, pick one up with the forefinger and thumb of my [illegible] tablet into the palm of my [illegible] my left forefinger and thumb. [illegible], and at the same time I draw down both lower lids by means of the ring finger of each hand; the tablet is then dropped into the lowest part of each fornix. Should the child tend or attempt to close the upper lids this can be prevented by holding them up with the middle fingers Immediately the tablets are put in the child is asked to look at you, and at the same moment the lids are released; in this way the tablets are successfully entrapped in the fornices by the lower lids. This will perhaps seem a lengthy dissertation on a simple procedure, but by watching some attempt it I have proved that a few words of advice are helpful. By those who find the use of their fingers not so easy, I have had a double-pronged vulcanite applicator made, which Messrs. Burroughs Wellcome and Co. kindly undertook for me, a sketch of which is here shown.



Vulcanite applicator (full size).

With this applicator a tablet may be attracted to each prong leaving one hand free with which to draw down the lids at one and the same time.

My reason for desiring to insert the tablets simultaneously, or as near as possible to this, is that if a tablet is put in one eye and that eye is allowed to close before applying the second to the other eye, it will be found that the child feels the first tablet, "screws up the eyes," and makes it extremely difficult to get the second one in. My reason for wishing to entrap the tablet in the lower fornix is that unless this is done the tablet is apt to ride up on to the cornea and thus cause irritation with copious flow of tears before it is fully dissolved, and in this way it may be washed out of the conjunctival sac on to the edge of the lids

If the procedure is carried out as I have indicated it will be found that the tablet is dissolved almost before the child is aware that there is anything in the eye—in 10 to 20 seconds; very slight smarting is then felt, there is a little pericorneal flush, the pupil dilates fully in from 10 to 15 minutes, and there is a complete paralysis of accommodation in half an hour, at the end of which time I estimate the refraction and order the appropriate lenses. Accommodation is fully restored in from six to eight days. I have now dealt with over 800 children in this manner, and have only once had to apply a second tabloid to get paralysis of accommodation, and in that case it was due to faulty application of the first tabloid, part of which was found on the edge of the lid It is the rarest thing to find any child cry after having put the tabloids in, and those few who have done so have always shown *indications of approaching* lacrymation almost before any attempt at touching their eyes had been made. The younger the children the less trouble it seems to cause them, their ages ranging from 4 [illegible] *tablets to a dozen or more* [illegible] they are generally all smiling [illegible] two have braved the ordeal; [illegible] select your first two children, and if it is a good selection they will probably laugh over the sensation and the rest will follow suit.

I have more particularly wished to give my experience in this method of atropinisation in order to point out the enormous advantage in time and convenience it has over the home use of ointment or drops in dealing with the refraction of school children in school clinics and suchlike centres where many children are collected together at the same time. It necessitates only one visit; whereas with the use of ointment or drops it is the invariable experience, no matter what elaborate instructions, written or otherwise, are given, that at least one or two, and often more, out of every dozen return for refraction, either not having used the ointment at all or only partially so. They are then sent back a second time with a further supply of atropine, which although not used the first time yet in some way has mysteriously disappeared. Then, again, a certain number of the cases do not return at all, whereas if the tablets have been used on the first visit there is no chance of escape from refraction at any rate. The use of atropine at home, too, is not such an easy matter, especially when it has to be done three or four times a day for several days. It requires not only experience but time and patience, and how often, as one knows, the home and mother are already saddled with a hundred and one other duties.

One further point to which I would like to draw attention is that I have not yet seen any case, when using these tabloids, present any signs or symptoms of atropine irritation or poisoning. As regards actual cost of material, the tablet method compares very favourably with that of ointment or solution, the hospital price of the tabloids working out at about 6*d.* for a tube of 25, so that 12 cases can be refracted at a cost of a fraction less than ½*d.* each. Atropine ointment is supplied in two-drachm chip-boxes at a cost of a ½*d.* each, in addition to which a glass rod for application has also to be given, and time spent in the dispensing of the ointment or solution.

London, W.

THE USE OF GELATIN IN MICROSCOPICAL TECHNIQUE.

By W. JOHNSON, M.D. LOND., M.R.C.P. LOND.,
GULL STUDENT, GUY'S HOSPITAL.

AT the Conference of the Sudwestdeutsche Neurologen und Irrenärzte held in Baden-Baden on May 24th and 25th, Professor Edinger (Frankfort-on-Main) showed several microscopical specimens mounted in gelatin in place of the usual mountant, Canada balsam. As I have had the opportunity, while working in his laboratory, of practising this method, I append details for any who may wish to make use of it. The technique has been developed from suggestions originally made to Professor Edinger by a photographic chemist, Mr. Ralph Liesegang, and has been worked out chiefly from the point of view of utilising it for neurological preparations. It is, however, by no means confined to this particular branch, but can be applied to most pathological work.

Sections may be cut by any of the usual methods—viz., freezing, paraffin, or celloidin. They can then be stained in the ordinary way, and all stains are available with the exception of those which can be extracted from the tissues by immersion in water. This group of exceptions is not large, but, unfortunately, it includes Nissl's method and all others in which the aniline dyes figure. Efforts which we made to fix these dyes in the tissues—as, for instance, by the use of solutions of varying strength of ammonium molybdate—preparatory to placing the sections in water, have proved unsuccessful. Further work may possibly overcome this difficulty.

Having completed the staining process the section is put into water and is now without further treatment ready for mounting in the gelatin solution.

In the preparation of this a few essentials must be noted. Firstly, the solution must be freshly made and the best results are only obtained when the special gelatin, as used for photographic plates, is employed. Of this, 10 grm. are taken and allowed to soak for two hours (preferably overnight) in 100 c.c. of distilled water. When about to be used this solution must be warmed to a temperature of 50° C. by means of a water bath in order to render it sufficiently fluid. It is advisable to filter it beforehand, also at this temperature.

As much of this warm solution is then gently poured on to the slide as can be put on without any overflowing. It is important to pour on as much as possible in order to get a sufficiently thick film of gelatin in the final result. When large sections are being treated it is better to keep the slide on a warm stage, and in the case of frozen or celloidin sections to pour on a thin layer of the gelatin solution first before putting the section in position on the slide. Larger sections still can, with profit, be immersed in the solution for a few minutes beforehand. The preparation is now left exposed to the air, and in the course of a few hours the water evaporates and one is left with the slide covered with a fine transparent film of gelatin in which the section is imbedded. This film behaves in every particular like the gelatin film on a photographic plate. It is intensely hard, resists scratching, and can be packed face to face with other specimens without involving the risk of finding them glued firmly together as is the manner of Canada balsam. Under the microscope a perfectly clear picture is given, and if necessary cedar-wood oil, for oil immersion purposes, can be used.

The great advantage of the method is the economy of time and material which results. There is no tedious transferring from dish to dish for the processes of dehydrating and clearing. Thus alcohol, xylol, Canada balsam, and cover-slips are entirely dispensed with, and in addition one does away with the danger of injuring large brain sections which attends too much handling. Apparently specimens will keep indefinitely. Weigert-Pal preparations — for which the method is eminently suitable—have been preserved for three years. Serial sections, which require large slides and cover-slips, lend themselves to this manner of mounting. Finally, perhaps, botanists may find here a useful servant. Their chlorophyll specimens, being untreated by alcohol, are able to retain their pigment unaltered, and so can be mounted in the natural state.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF ACCIDENTAL COAL-GAS POISONING, WITH RECOVERY.

BY WALTER ROBERT S. JEFFERISS, M.D., C.M. EDIN., D.P.H.

AS cases of accidental poisoning from coal-gas are not frequently met with in general medical practice, perhaps the following notes of a case may be of some interest to medical men.

On Oct. 4th, 1912, I was asked to go to the relief of a man over 60 years of age who was supposed to be dying. On reaching the house I found the whole place smelling strongly of coal-gas, and on going upstairs to the bedroom, a room of about 11 ft. square, I found the man lying on the bed on his back quite insensible, breathing stertorously, and to all appearance not far from death. There was also one other occupant of the room, a small grey linnet in a cage overhanging the bed, but it, alas, had sung its last song and was lying dead on the floor of its cage. The man's face was livid; his eyes were wide open, the pupils firmly contracted, and the corneal reflex gone. There was not a trace of consciousness left, and the breath smelt strongly of coal-gas. The bowel sphincter was relaxed; the temperature was slightly subnormal, the body being well covered in bed; and the pulse was 68, regular, and moderate in strength. I had the patient brought close to the open window and resorted to artificial respiration, coupled with cold affusion to the head and flicking the body with a wet towel. Consciousness gradually returning, and the patient being now able to swallow, I gave him some hot, strong coffee, a spoonful at a time, and after an hour's efforts he recovered, and I left him in the charge of his relatives. On the next day, after a good natural sleep, the patient seemed quite himself.

The history of the case is as follows. The patient, who lived with his son, not feeling very well on the previous day, had retired to bed somewhat earlier than usual, the gas being lighted to warm the room as there was no fire. The bedstead blocked the fireplace, the and window were shut, and the gas was allowed to all night, or rather up to a late hour of the night, when the son, as was his custom, turned off the *meter on going* to his own bed, but omitted to turn off the gas-tap in his father's bedroom. The father, seeming tired, continued to remain in bed, and the relatives considering that he was not "up to much" advised him to rest until after dinner-time, which he agreed to do. After breakfast-time the son had occasion for business requirements to turn on the gas downstairs again, forgetting that the gas-bracket had never been turned off in his father's room. During the afternoon the relatives *went upstairs and found the patient* as I have described, *the room full of gas, and the gas-bracket still on.*

This recalls to my recollection an extraordinary case of murder, where the secret opium poisoner used coal-gas to cover up his crime by pretending that his victim (his wife) was dying from accidental poisoning by the escape of coal-gas in her room, and then calling in a medical man, who, at first believing his tale, used similar measures as were used in this case, but finding no success sent for an *expert to assist him, and as a result they considered the* best thing was to remove the patient to a hospital for further treatment and watching. Their efforts were unsuccessful, and the woman died. A post-mortem examination threw no light on the case, but a small stain on her pillow at her own house was analysed and found to be extract of opium. The poisoner attended his victim's funeral, was shadowed, and then arrested, brought to trial, convicted, and hanged at Edinburgh in 1866. In this case *the poisoner had broken through the gas-pipe, which was* behind a shutter in the room, and thus allowed the gas to escape, which he thought would mislead the medical men and cover up his crime.

During the past year or two I have met with two or three would-be suicides who have tried to effect their purpose by using coal-gas inhalations, but were rescued by their relatives in time to prevent a fatal termination to their foolish attempts.

Chatham.

NOTE ON A NEW OPERATION FOR FEMORAL HERNIA.

BY G. S. THOMPSON, F.R.C.S. ENG.

I THINK *it will be admitted that most, if not all, of the* operations for femoral hernia are theoretically if not practically unsound, and therefore leave much to be desired. Simple ligature of the sac here, as opposed to the same proceeding in the inguinal variety, is obviously inadmissible. Muscular obstruction to the canal has not yet readily been effected, as far as I am aware, and its attempt by means of a flap from the pectineus muscle can be only temporary, since the tissue used by being inevitably deprived of its nerve-supply must *degenerate into a fibrous mass, to say nothing* of the objectionable mutilation. This flap method may or may not form an efficient barrier; at any rate, it cannot be relied on with certitude. *Approximation of Poupart's ligament* to Cooper's ligament or the pubic bone by suture, staples, or wire is apt to alter detrimentally the anatomical arrangement of the parts, causing, amongst other things, undesirable pressure inwardly and from above on the vessels to the lower extremity, whilst metal bodies in this region are a possible source of danger, to say nothing of the loosening of such things as staples. Of all these processes a modification of one of the last, by means of a loose suture between the two ligaments arranged in the form of a network, and acting like a filigree by provoking infiltration by fibrous tissue, would appear to be the best.

The means I adopt and will now describe involve the use of a specially but easily prepared celluloid filigree shaped so as to fill the triangular femoral hernial space. I have already[1] drawn attention to the value of celluloid in some departments of surgery, and amongst other things indicated the especial value of a perforated celluloid plate rather than silver wires as a general filigree substance for large and suitable hernias. Several rectangular-triangular pieces of thin sheet celluloid of various sizes and the shape of the femoral canal are cut. The short outer side is rendered slightly concave, the long side corresponds in position to Poupart's ligament, while the third side opposes Cooper's ligament. These celluloid triangles are riddled with perforations by a fine punch, and the *sharp angles thereof are* rounded off. The outer concave border is then turned back at right angles to the remainder, and by means of the thumb-nail the flange thus formed is made to present a concavity *at its junction with the rest* of the plate. Subsequently this flange will be outermost, resting against the vein, and is formed to eliminate the sharp edge that might otherwise ulcerate into the vein and produce disaster. So much for the filigree.

Regarding [illegible] been made o[illegible] and the sac [illegible] rm against the vein a cushion [illegible] ll rest. *The femoral triangle* [illegible] above, *Cooper's ligament* and the bone below, and the vein and connective tissue externally, is then clearly and cleanly defined. A suitably sized filigree is next chosen and inserted into this space and will rest against Poupart's ligament above, Gimbernat's ligament internally, the pubic bone below, whilst the flange opposes the vein externally, from which it is separated by the pad of loose connective tissue already referred to. *Three temporary catgut fixation stitches* are *inserted* through the perforations at convenient spots, thereby fixing the filigree to the above three ligamentous structures. The operation is thereafter concluded. The femoral canal is now completely obstructed and in a short time following the operation the perforations of the plate get riddled by fibrous tissue, as a result of which the plate becomes covered by, and embedded in, the same and thereby firmly fixed *in situ.* By this means the canal is *permanently, thoroughly, and satisfactorily closed without* causing pressure on, or injury and improper disturbance to, the parts; and hence an impassable barrier is constituted. Moreover, the vessels cannot be damaged or interfered with by this plan, and I think the method will prove not only the most but quite a satisfactory means, to the exclusion of all others, of coping with this troublesome condition.

Amongst other things, celluloid has the great advantage of being flexible, and consequently of adapting itself to *every varying* conformation of the part. *Boiling is apt to* crinkle this substance, and therefore it is preferably sterilised by being inserted in alcohol or some antiseptic for some time preceding its use. Celluloid can be obtained in thicknesses varying from that of the ordinary photographic film to cardboard, but for this part of the body the thinner sheets are desirable as forming a resilient and light yet efficient barrier, consisting ultimately of celluloid and its investment of fibrous tissue, which forms a femoral diaphragm.

The same principle as already utilised may be modified and adopted by using a triangular floss-silk or chromic catgut network filigree; and this would constitute an improvement on the plan of constructing *in situ* a mesh by suture of the ligaments of the part—a *manipulation,* as a fact, *not easy of satisfactory accomplishment.* If this modification be preferred or is preferable, several sizes of fine meshed triangles should be constructed and the surplus threads *prolonged from each angle* and *two or more places* from the upper and lower sides for purposes of suspension and fixation. The outer side of this kind of filigree, as in the case of the celluloid homologue, would be concave. The free threads will be used for fixing the netted filigree to the ligaments of the femoral triangle. This net filigree will have *the* same effect as the celluloid plate, provoking, and resulting in, the formation of a fibro-cellular diaphragm superimposed on the artificial septum introduced. As the former would probably be adequate *to obstruct the canal,* an absorbable material like chromic catgut might be sufficient to meet all requirements, *failing* which *floss silk* would be indicated as the substance of choice—a question, however, which time alone can answer.

Kimberley, South Africa.

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[1] Brit. Med. Jour., July 30th, 1910, p. 257.

TINCTURE OF IODINE AS A HOUSEHOLD REMEDY.

BY EDMUND OWEN, F.R.C.S Eng.,

CONSULTING SURGEON TO ST. MARY'S HOSPITAL, LONDON.

IN recent years surgeons have learnt that a quick and easy way of rendering a wound or a surface of skin surgically clean is by painting or swabbing it with fresh tincture of iodine. To make the method quite trustworthy, the part [illegible] of the tincture [illegible] pore or crevice. [illegible] that they also might find the tincture a [illegible] protector; that they ought always to have a small bottle of it close at hand, a[illegible] many a cut, prick, or [illegible] of the dangerous [illegible] lock-jaw. The first-aid man should certainly carry some of it in his pouch, and the cyclist in his wallet. The gardener ought to have a bottle of it within reach, as the germs of lock-jaw live in the soil in which he works. The groom and the horse-keeper should be made fully aware of its value and importance, for the earth of the stable-yard and of the high-road on which they may be wounded is likely to be teeming with these same germs. The school matron should be ready to apply the tincture to the cut finger, the grazed knee, the barked shin, and the kibed heel, and a small bottle of it should be in every workshop and factory. And in the case of a compound fracture, or other grave wound, a pad of wool or linen dipped in the tincture should be placed directly over it, before the *doctor has had the chance of seeing it.*

The first-aid teacher and the health lecturer should call particular attention to the value of tincture of iodine, and should urge its use in such circumstances as those suggested in preference to all other antiseptics, and should explain why it should be applied to the dry surface.

Amongst the many advantages of the tincture is this, that it is not poisonous or harmful as carbolic acid is apt to be, and that it can be applied straightway, without preparation and also without fear of doing any damage.

Upper Berkeley street, W.

Medical Societies.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

A General View of Malingering.

THE thirty-second annual session of this society was opened at the West London Hospital on Oct. 3rd, when Dr. F. S. PALMER was inducted as the new President. The "Keetley Memorial Medal" was presented by the President to his predecessor in office, Dr. G. P. Shuter, to whom a very hearty vote of thanks was accorded.

Dr. PALMER then delivered his presidential address, entitled "A General View of Malingering." The term malingering, derived from the French adjective *malingre*—weakly or sickly—had [illegible] much wider application [illegible] the word included the *suppressio veri* as well as the *suggestio falsi*, and the reason probably was that there was no essential difference between the simulation of disease to extort money from an employer and the deliberate concealment of known ill-health to defraud a company or corporation. Formerly it was chiefly encountered in the army and navy, among prisoners, and the inmates of hospitals and workhouses, but recently it had become more general, particularly among industrial workers. Among the influences which promoted malingering was the trend of modern legislation. Since the Workmen's Compensation Act of 1906 came into operation the number of claims had gone up by leaps and bounds, and precisely the same experience was reported from France and Germany, where the accident laws were older than our own. Employers had discovered that it was cheaper to settle claims out of court than to contest them. Although the activities of some speculative lawyers and so-called legal aid societies stirred up strife between employers and employees and encouraged malingering, it was a mistake to suppose that the enormous increase of claims admitted by most of the Approved Societies was due entirely to malingering. The National Insurance Act had opened a new and perilous chapter in history and unlocked the floodgates to the risk of malingering on a scale hitherto unknown. Six months' working of the Act had shown that the sickness claims of women were amazing. The desire to get something back for what had been paid was a human failing. The logical sequence to compulsion was resistance, and that it would take the form of malingering in many instances was a certainty. The psychology of malingering was a complex and interesting study; pecuniary gain was not always the underlying motive, and other influences were often at work, such as idleness and a desire for sympathy or notoriety and resentment. Hitherto, the largest proportion of claims were for the results of accident or injury, and extravagant damages were often demanded from wealthy employers, corporations, or the State. Many persons fit to return to work were restrained from making the attempt when litigation was in the air by the fear that it might prejudice the issue. Introspection, suggestion, repeated medical examinations and consultations with solicitors, according to the psychological law, led to the intensification of symptoms; and so long as these mischievous agencies continued in operation the abnormal mental condition was not likely to improve. Although it was the duty of the profession to discountenance any kind of fraud which came under notice, no doctor was expected to undertake the duties of a detective. If he acted in good faith not much was to be feared, and no sensible medical man would make an accusation of malingering unless he was prepared to bring forward positive evidence in support of the charge. Precipitate action was to be condemned. In doubtful cases it was far better to be deceived than to allow unjust suspicion to fall on the victims of some obscure or depressing disease. The essential feature of malingering was deliberate deceit to gain some desired end. Valetudinarianism occupied a different position. The President then considered the various methods of malingering. Valetudinarianism was of great importance from the medical standpoint. Many of these cases, no doubt, came under the head of unconscious or subconscious malingering, but it also included a considerable proportion of genuine invalids who demanded the utmost sympathy and protection. Surgical cases gave far less trouble than medical ones; there was not much scope for fraud in visible physical injuries. When objective signs were present they could be deciphered on regular lines, but if the complaints were only subjective one had to rely on the none too reliable statements of the claimants. Some of the so-called functional cases deceived the very elect. Before a diagnosis of functional disease could be made organic signs must be eliminated from the field of inquiry. The sufferings of the true neurasthenics were only too sad and genuine, and to brand them with the name of malingerer was both cruel and unjust. Finally the President dealt with the prevention [illegible] suggestions: [illegible] referees of [illegible] with the arbitrators or county court judges to interpret medical evidence; (3) a system of organised lay inspection and visitation; (4) compulsory detention in hospital of doubtful cases; (5) a time limit to functional illnesses; (6) periodical medical examination of suspected cases by independent practitioners; and (7) some system of registration by which the benefits of claimants from all sources could be made known.

During the evening cases were shown by Mr. N. BISHOP HARMAN, and the meeting closed with a vote of thanks to the President for his interesting and opportune address.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 3rd. Dr. David Ross, the new President, delivered an address on Some Mistakes in Prognosis. He urged the advisability of not giving a prognosis on seeing a patient for the first time, although one was often demanded, especially from a consultant. An absolutely hopeless prognosis should seldom be given. He doubted whether the date of demise could be fixed by anyone, illustrating the unwisdom of attempting to do so by a case of heart disease in a woman who was given three weeks to live, yet who on hearing the opinion changed her attendant, and three months later became a weekly attendant at the local theatre for about two years. Prognosis depended on a complete and careful examination leading to a scientific diagnosis. Yet the disease should not alone be considered and weighed, but the body as a whole in which it occurred. In bedridden asthenics death was not infrequently delayed though desired. Conversely, some apparently died merely because death was expected by the patient, the illness being but an excuse for the end. To illustrate recovery from the moribund state a puerperal septicæmia was cited in a young woman to whom no good from vigorous treatment resulted. Then morphia in a moderate dose was hypodermically injected, and, to the surprise of all, sleep succeeded delirium and a gradual convalescence was followed in due course by five pregnancies. Arthritis due to pyorrhœa alveolaris was not invariably cured by the removal of the cause, but might unexpectedly increase. A case of malignant disease of the base of the bladder, seen by a consultant, in a man aged 70, was given an unfavourable prognosis, yet after treatment by ergot and calcium chloride hæmorrhage and retention of urine gradually ceased. Now, three and a half years after the diagnosis was made by the aid of the cystoscope, the man goes twice weekly to the city on business Prognosis in pulmonary tuberculosis he considered full of difficulty, quoting a case of a young man who seemed to be dying and so to justify an unfavourable opinion. Yet he speedily improved, and is now, four and a half years from then, in active business. When honestly possible a favourable outlook should always be given because of its therapeutic effect. A bad prognosis by destroying hope and paralysing sustained effort might *often bring about its own fulfilment.*

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Oct 1st. Dr J. J. Graham Brown delivered the opening lecture and took as his subject "Certain Aspects of Hemiplegia." His object was to prove that the movements regained on the paralysed side after hemiplegia were due to the re-assumption by the basal ganglia of functions possessed by them before the development of the phylogenetically recent cortex. He briefly reviewed the history of the cortex from the standpoint of comparative anatomy, tracing it from the ganoid fishes through the reptiles, birds, and lower mammals. He then showed that complete ablation of the cortex in these fishes, reptiles, birds, and lower mammals was followed by little or no effect at all, owing to the fact that in these animals the cortex was of such recent appearance that it had not taken the functions of movement and locomotion from the basal ganglia to any great extent. In man, however, most of these functions had been abrogated to itself by the cerebral cortex, although it was probable that the basal ganglia even in his case retained some of their primitive functions as far as locomotion and perception were concerned. He quoted a case of great interest that had come under his observation in which the patient who had hemianopsia was able to state in which direction an object was moved, the blind side being stimulated, although he was unable to "see" it. Dr. Brown then discussed the theories at present accepted as to the factors at work when movements return to a previously paralysed side. He could not agree with the statement that the homolateral cortex was the agent owing to the fact that movements returned after a double hemiplegia Neither could he accept the theory that such movements were due to the direct *pyramidal tract*, since the fibres of this tract almost certainly decussate in the cord before passing to the cells of the [illegible] cipal [illegible] the [illegible] and [illegible]

NATIONAL ASSOCIATION FOR THE FEEBLE-MINDED.—In the council chamber of the London Guildhall on Oct. 23rd Field-Marshal Lord Methuen will preside over the annual Conference on After-Care. The Lord Mayor will open the conference at the morning session which commences at 10 45, and a paper by [illegible] Chance on the Mental Deficiency Act, 1913, [illegible] President's address. At the afternoon session [illegible] at 2 o'clock, papers are announced by Mr. F. O. Spensley, senior medical officer at the Darenth Industrial Colony, on Occupations Inside Institutions, and by Mrs. Burgwin on Occupations Outside Institutions. There will be a discussion at each session, and work done by feeble-minded inmates at various homes and institutions [illegible] day. In view of the importan[illegible] there will be a [illegible] bodies concerned in the [illegible] report of the proceedings will be issued at the price of 1*s.*

Reviews and Notices of Books.

Surgery, its Principles and Practice. By Various Authors. Edited by WILLIAM WILLIAMS KEEN, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery [illegible] Philadelphia. Vol. VI., with [illegible] them being in colour. London and Philadelphia: W. B Saunders Company. 1913. Pp. 1177. Price, cloth, 30*s.* net.

THE fifth volume of this "System of Surgery" completed the work, and that volume was published in 1909, but the time that has elapsed since then has witnessed so many advances in surgical theory and practice that the editor felt it was desirable to publish a supplementary volume, in which might be included all the latest facts in surgery. The authors of the articles in the previous volumes were therefore asked to provide the extra material, so as to bring their articles up to date; in addition, a few new sections have been added on intratracheal insufflation, the surgery of the hypophysis or pituitary gland, and the use of salvarsan in syphilis.

From the very nature of the volume as a supplement to the "System of Surgery" it follows that many of the articles are brief and, in fact, even a little scrappy, for only those points which are new are recorded; but this in no wise detracts from the value of the volume, for it is these new points which are of importance It is somewhat invidious to select from so large a mass of material articles for special mention, but there are some which seem to us particularly valuable The chapter on shock, by Dr George Crile, of Cleveland, is a very useful summary of his views on this important matter, and as he has probably done more than any other surgeon to advance our knowledge of this condition, this presentation of his views is likely to prove useful. The chapter on what he has named "*anoci-association*" is a careful account of his methods of avoiding post-operative shock in all its forms, and will be familiar in its contents to readers of our columns. The article on fractures, by Dr. Daniel Eisendrath, of Chicago, also contains much new material.

The new chapter on the surgery of the hypophysis has been written by *Dr. Dean Lewis and Dr. Allen Kanavel*, of Chicago; it contains a satisfactory account of the development, the anatomy, and the histology of the gland, and its physiology, at least so far as that is known The symptomatology connected with the pituitary body and the operative treatment which has been employed for tumours affecting it are detailed, thus forming one of the best accounts of this gland and its diseases that we have seen. Dr. George Emerson Brewer has written on the surgery of the thorax, and as this is a department of surgery in which much recent progress has been made the chapter is long. Mr. Mayo Robson's article on the surgery of the stomach certainly merits special mention, *as does also* the chapter on the surgery of the intestine by Dr. Weller Van Hook and Dr. Allen Kanavel, of Chicago. We should also like to draw attention to the chapter on plastic surgery by Dr. John B. Roberts, of Philadelphia.

The editor has wisely added a general index to the [illegible]

British Rainfall, 1913. By H. R. MILL, D Sc, Director of the British Rainfall Organisation; assisted by CARLE SALTER. With Maps and Illustrations. London: Edward Stanford. 1913. Pp 468. Price 10*s*

THIS invaluable work continues to increase in scope and [illegible] the number of stations at which observations are [illegible] increase of 193 over [illegible] stations by counties and river basins throughout the United Kingdom is now complete, and useful maps are supplied in this volume.

clearly indicating the basins and watersheds. The mean rainfall for stations in England in 1912 was 39·31 inches, being 23 per cent. above the average of the 35 years, 1875–1909; in Wales it was 56 19 inches, or 19 per cent above the average; in Scotland it was 49·01 inches, being 11 per cent above, and in Ireland 44·06 inches, or 8 per cent. above, the average. Within the last 32 years for which comparisons are available, two only (1882 and 1903) have been wetter than 1912 in England and Wales, or in the British Isles. In 1910, for the first time in 21 years, a wet year immediately followed a wet year, and the succession of two dry years followed by one wet year, that had been the rule in England and Wales from 1889 to 1909, broke down. Dr. Mill points out, nevertheless, that it is significant that the very wet year 1912 "falls into place in the old order, maintaining the tradition that every third year should be wetter than the two preceding." The greatest rainfall in the kingdom occurred on Snowdon (Crib Goch), where 205 17 inches were registered; in England 196·43 inches fell at the Stye, near Scafell Pikes, in Cumberland; in Scotland 178·95 inches fell at Loan, Loch Quoich; and in Ireland 106·60 inches were recorded at Gearahameen in the Gap of Dunloe. The least rainfall, 19 24 inches, was registered at Stifford (Essex). The principal feature of the year was the great rainstorm of August 25th and 26th, extending over a considerable part of East Anglia, where a fall of over 3 inches occurred in Norfolk and Suffolk and Cambridgeshire; in East Norfolk and the adjoining part of Suffolk more than 4 inches fell, while in the neighbourhood of Norwich the fall was over 7 inches, at one point (Brundall) 8·09 inches, and at another (Sprowston) 8·25 inches being recorded in these two days. This is the heaviest rainfall hitherto recorded in the British Isles, that at Seathwaite in 1897 having reached only 8 03 inches. Disastrous floods were the inevitable result, the effects of which on the public health have probably been long-continued and far-reaching. We much regret to hear of the ill-health of Dr. Mill, whose eyesight has been so much affected by the constant strain of this work that he has had to take complete rest for a considerable period. It is also regrettable to learn that, although the expenditure on the organisation amounted to £1521, the receipts only came to £1409, the considerable deficit of £112 having to be met by the honorary director himself. If municipal bodies and sanitary authorities understood the value of this organisation and its important bearing on public health questions, we cannot help thinking that more of them would give their support. Only 19 of these public bodies throughout the country subscribe to the organisation.

Syrian Anatomy, Pathology, and Therapeutics, or "The Syrian Book of Medicines." The Syriac text edited from a rare manuscript, with an English translation by E. A. WALLIS BUDGE, M.A., Litt D. Vol. I.: Introduction, Syriac Text. Vol II.: English Translation and Index. Oxford University Press, London, New York, Toronto, Melbourne, and Bombay: Humphrey Milford. 1913. Vol. I., pp. clxxviii.–612; Vol. II., 804. Price 42*s.* net.

THE science and art of medicine owe a heavy debt to Syrian Christianity, theologically known as Nestorianism. For it was Nestorian Christians, whether Arabs or Syrians, who in the great schools of Gundisapor and Bagdad studied and translated into Arabic or Syriac from the sixth to the ninth century A.D. the works of Hippocrates and Galen. Such students were Sergius Rish Aina, Bachtishua, and the Mesues, who were Syrians, but the greatest of the translators was Hunain, a Christian Arab, who was assisted by his nephew Hubaish. The Nestorian Church in its palmy days had an organisation which stretched from Asia Minor to China, and the Nestorian physicians were widely known and valued. We learn from Mandeville that the Great Cham of Tartary had: "Of Phisicyens Cristene 200. And of Leches that ben Cristene he hath 210. And of Leches and Phisicyens that ben Sarrazines 20, but he trusteth more in the Cristene Leches than in the Sarazines." It is almost certain that these "Cristene Leches" were Nestorians. Gundisapor was founded, as its name implies, by Sapor I. (A.D. 240–273), and he imported thither Greek physicians, who in the words of Bar Hebraeus "sowed Hippocratic medicine in the East." Thither, too, after the break up of the great medical Syrian school at Edessa, which was closed by the Emperor Zeno in 489 A.D., came various Nestorian physicians, such as Sergius of Rish Aina, who translated portions of Galen. He died about A D. 536. The last of the great Syrian physicians was Bar Hebraeus, who died in 1286.

Syriac works on medicine are rare, and Dr. Budge has conferred a great benefit on students of historical medicine in thus laying before them a book which, as he says, is "the most important and most perfect Syrian treatise on anatomy, pathology, and therapeutics known to us." The manuscript which he had copied, and the text of which is reproduced in these volumes, was written, he considers, in the twelfth century. It is unfortunately incomplete, for the first portion commences with Chapter III. and portions in the middle and at the end are also missing. This first portion deals with anatomy, pathology, and therapeutics. The second portion deals with astrological matters, and the third, entitled "The Book of Native Medicines," is a collection of popular recipes and prescriptions evidently drawn up by "physicians" who did not adopt the Hippocratic theories which are the foundation of Section I. Dr. Budge considers that the first two sections were probably originally written in Greek, while the third "may have been written in Arabic, or Persian, or in some Syrian dialect."

Section I. is a series of lectures in which the author, whoever he was, follows the principles laid down by Hippocrates and Galen. The various portions of the body and the diseases which affect them are dealt with seriatim, commencing with the head; the last chapter, which is incomplete, begins with diseases of the kidneys. Numerous personal experiences are quoted in illustration of the principles laid down in the lectures, and the author had evidently seen many dissections performed or had dissected himself, for he constantly refers to anatomical points apparent by dissection. Also, he insists on the value of anatomical knowledge for a right diagnosis and successful treatment. Here is an illustrative case (Vol. II., p. 131): "If therefore a man knoweth from the making of dissections the sources of the nerves which come to each one of the members, this man, I say, can cure so successfully the want of feeling and the want of motion of each one of the members, even as I myself did in the case of a man who fell from a horse, and hurt the upper part of his back, and feeling was paralysed in two of his fingers and the half of a third. I ordered them to put plasters on the place which was injured, and the man was cured in a few days. And with the following fact physicians are not all acquainted that the roots of the nerves which are divided (i.e., radiate) in the skin of the hand, wherefrom cometh the power to feel, are of one kind, and that those which move the muscles are of another." The author of the "Book of Medicines" must have felt an honest pride in this case, for Galen relates an exactly similar case with the exception that his patient had fallen from his chariot and not from a horse. (De Locis Affectis, Lib. I.; see Kuhn's "Edition of Galen," Vol. VIII., p. 56 *et seq.*) It must not be imagined that the author exhibits such sound knowledge as the above in all his lectures, for, as is only natural in the state of physiological knowledge of that time, he is inclined to treat symptoms rather than causes, of which he was necessarily more or less ignorant. But as regards nervous affections and paralyses, wherein, as we have seen, he applies correctly his anatomical and physiological knowledge, he lays down the canon (p. 143) "If a man is not able to make a diagnosis he will not be able to cure the disease properly." On the whole his lectures are far more scientific than the writings of many physicians of the thirteenth and fourteenth centuries, and there is a singular absence of the loathsome prescriptions which are so prominent a feature of later writers, even of the seventeenth century.

In addition to his translation Dr. Budge has supplied a most interesting introduction, giving a description of the MS., a *précis* of the contents of the three sections, a short historical review of ancient medicine, and a chapter dealing with the author so far as anything can be gathered from his work, which is but little. The date of the "Book of Medicines" must be as late as the second century A.D., as Galen and Sorinus (probably Soranus of Ephesus, 98–138 A.D.) are quoted. But the book is, in the main, Hippocratic, and it is one which every student of the history of medicine should study. It is published under the direction of the Royal Society of English Literature of the United Kingdom.

A Course in Normal Histology: A Guide for Practical Instruction in Histology and Microscopic Anatomy. By RUDOLPH KRAUSE, a o Professor of Anatomy at the University of Berlin Translated from the German by PHILIPP J. R. SCHMAHL, M.D., New York. Part I. London: Rebman, Limited. 1913. Pp 86 Price 5*s*. net.

THE slim volume before us, containing only 86 pages of text, is devoted to the technique of histological study. It is published separately in order that it may prove of use to others besides students of histology, affording as it does an epitome of microscopical methods.

It opens with an account of the structure and principles of the microscope itself, in which are described the properties of lenses, single and in combination, the methods of illumination adopted in modern microscopes, and the structure of the stand itself. Such terms as achromatic and apochromatic are explained, and the principles of immersion and of the construction of objectives are elucidated. A few words of advice are added as to care of these instruments, of which the cost of one suitable to a beginner is given as 300 to 400 marks (£15 to £20). The next section deals with methods of preserving specimens and with the principles of cutting and staining sections, the various fixatives being enumerated and discussed. The author speaks especially highly of corrosive sublimate, and also favourably of formalin, for this purpose. Among methods of cutting sections a good deal of space is devoted to the freezing microtome, which is evidently a favourite with the author for general purposes. The principles of staining are next set forth, the reader being introduced to mordants and lakes, to progressive and regressive staining, to basic and acid stains, and so forth, and the commoner dyes are enumerated and separately discussed, attention being directed to methods of impregnating tissues with silver or gold and to the mode of injecting organs. Finally, a few pages are devoted to mounting specimens and to measuring and drawing them when finally prepared. Professor Krause rightly lays stress on the importance of every student practising the methods here set forth and not being content to receive specimens ready prepared by a demonstrator, as well as on the value of making drawings of what is observed.

The book forms a very complete guide to histological methods, a large amount of information being compressed into a small compass. The information given is clear, succinct, and accurate. The translation is of only moderate quality, the translator being apparently not quite at home in the English language. For example, we do not usually speak of alcohol "assiduously" attracting water, or of the paraffin method of embedding tissue as the most "aggressive" (does this mean "troublesome"?) Phrases such as "a different colour than ......," "most all will be bleached" (for "almost"), "lest the cement will not adhere," are actually ungrammatical. German compound words like "chlor-calcium," "indig-white" should surely be translated by their English equivalents.

Gynæcological Diagnosis and Pathology. By A. H. F. BARBOUR, M D. Edin, LL D. Toronto, F.R C P. Edin, Lecturer on Gynæcology in the University of Edinburgh, Gynæcologist to the Edinburgh Royal Infirmary; and B. P. WATSON, M.D, F.R C S. Edin., Professor of Obstetrics and Gynæcology in the University of Toronto. With 8 plates and 202 figures. London and Edinburgh: William Green and Sons. 1913. Pp. 220. Price 7*s* 6*d*. net.

IN this book the authors do not profess to give a complete account of the various conditions that constitute gynæcological pathology; their object has been rather to furnish the student with a method of study. In their opinion gynæcological teaching in the past has suffered from the fact that the student has not been led to the study of actual specimens and the results of microscopical examination. This is, however, by no means the case in all medical schools; there is, at any rate, one school within our knowledge in which *systematic instruction in gynæcological* pathology has been a prominent feature of the teaching for many years past. If such a defect in the teaching of gynæcology is really common, the fault lies to a large extent with the examiners in the subject, who do not require their candidates to show a knowledge of the macroscopic and microscopic anatomy of gynæcological specimens. A perusal of this book, however, will go far towards putting the student on the right path, and the large number of illustrations should prove of great value in showing him what he is to look for and observe. The book contains a straightforward and clear account of the most important pathological conditions met with by the gynæcologist.

We are glad to see that the authors have given up the old term chronic endometritis; as they point out, this is really not an inflammation of the endometrium, as the name suggests, but includes such conditions as glandular hyperplasia, hyperæmia of the stroma, fibrosis of the stroma, and thickening of the vessels In view of this fact it is a pity that they still retain the names glandular *endometritis* and hæmorrhagic endometritis in the legends to the figures they give. This, however, is a minor detail in a very good book which cannot fail to be of great value to the student who honestly studies it. The section dealing with methods of diagnosis, more especially that part of it treating of physical examination, is particularly good, and the tables of the conditions to be found in the vagina and fornices on carrying out a bimanual examination should prove useful to the student.

LIBRARY TABLE.

A Laboratory Manual of Invertebrate Zoology. By GILMAN A. DREW, Ph D., Assistant Director of the Marine Biological Laboratory, Woods Hole, Massachusetts. Second edition, revised. London and Philadelphia: W. B Saunders Company. 1913. Pp. 213 Price 6*s*. net.—In reviewing the first edition of this book six years ago we commended the orderly manner of its arrangement and the prominence accorded to the salient points. The present edition contains descriptions for the study of a few forms and a rather simple bibliographical list that were not included in the first edition.

The number of pages has been increased with a corresponding ncrease of 1*s*. in the price of the book. The manual is a time saver both for teacher and student.

Woman, Marriage and Motherhood. By ELIZABETH SLOAN CHESSER, M.B. London: Cassell and Company. 1913. Pp. 287. Price 6*s*. net —A volume with such a title naturally arouses nterest. The subject is one that might have been discussed n a superficial manner, annoying to the thoughtful public, or with a wealth of learning or detail deterring to all except the expert student of sociology. Dr. Chesser has steered between the two extremes, and has been eminently successful n producing a book which will probably be widely read by he public. She has a sane, healthy outlook on social problems, on the work suitable for women, and she writes in a fluent, bright style which conceals by an appearance of ease much that is the product of wide reading and close thought. Though fearless and outspoken in her description of the danger to the community and to the individual proceeding from prostitution and venereal disease, Dr. Chesser efrains from the screeds encountered in the publications of unbalanced and emotional writers of both sexes. Dr. Chesser claims that she seeks for the sources of wrong and suffering, nstead of dealing merely with the effects; hence she seeks for the cure of the social evil in the education of the boy and girl, in the care of the feebleminded, in the prevention of alcoholism, and in the amelioration of conditions of poverty. There is much that is provocative of discussion; there is much with which the social reformer would disagree. There is also much that is but theory and generalisation, but the book is one which can be read and considered with advantage to the home and to the development of the average young woman.

MISCELLANEOUS VOLUMES.

SEVERAL reports of learned societies and reprints of original communications and addresses have reached us during the month, which for reasons of space must be dealt with briefly. In some cases the works appeared originally in our columns.

Volume XVII of *Studies from the Rockefeller Institute for Medical Research* (New York: Published by the Institute. 1913. Pp. 624) continues its collections of reprints from various scientific and medical journals of work done by the workers in the laboratory. The list is too long to enumerate, but the volume contains, among many valuable and interesting papers, the original communications of Hideyo Noguchi on the Cultivation of the Spirochætæ, and on Treponemata, papers by Simon Flexner and others on Poliomyelitis, by J. B. Murphy on the Transplantability of Malignant Tumours to the Embryos of a Foreign Species, by Alexis Carrel on Permanent Intubation of the Thoracic Aorta and on Pure Cultures of Cells, besides many papers on Physiology and Pharmacology, Chemistry and Biochemistry, and Experimental Biology. There are also many studies from the Hospital of the Rockefeller Institute in regard to Syphilis, Pneumonia, and Heart Diseases and Conditions.——*The Transactions of the Ophthalmological Society of the United Kingdom*, Vol XXXII. (London: J and A. Churchill. 1913. Pp. 242. Price 12*s*. 6*d*. net), contain, besides the usual official information, the communications brought before the Society during 1912–13, divided under the following heads: Discussion on Vascular and other Retinal Changes in Association with General Disease, papers by James Taylor, Louis Werner, and George Coats; Diseases of the Eyelids and Conjunctiva, papers by [illegible] C. Killick, and Leslie Paton; Dis[illegible] by F. A. Juler, Charles Wray (2); Diseases of the Cornea, papers by Sydney Stephenson, Charles Wray (2), and A. S. Worton; Diseases of the Uveal Tract, papers by Charles Wray (2), Malcolm L. Hepburn (3), and Inglis Taylor; Diseases of the Retina, papers by A. W. Ormond (2), J. B. Lawford, and E. W. Brewerton Diseases of the Nervous System, papers by James Taylor and Gordon Holmes (2), A. W. Ormond, E. Arthur Donnell, and J. F. Cunningham; [illegible] papers by E Treacher Collins and [illegible] E. Treacher Collins, A. C. Hudson (2); Glaucoma, papers by E. Treacher Collins, Arnold Lawson; Muscles and Refraction, papers by N. Bishop Harman, Ernest E. Maddox, E. W Brewerton, H. B. Grimsdale and C. J. Hope Gunning.——*The Proceedings of the Chelsea Clinical Society*, Vol. III. (London: *The Medical Magazine*. 1913. Pp. 124), are edited for the council by J. FOSTER PALMER. Besides the usual official information they co[illegible] Ionisation or Cataphoresis, by [illegible] ment of Phthisis by the Induction of an Artificial Pneumothorax, by Leonard Colebrook; Diseases of the Skin in Relation to Cardiovascular Disturbances, by David Walsh; the Position of Salvarsan in Therapeutics, by H. Wansey Bayly; the D[illegible] Treatment of Neurasthenia, by J. [illegible] Nature and Treatment of Neurasthenia, by Gordon Holmes; Puberty and the Menopause in their Bearing on Neurasthenia, by H. Macnaughton-Jones; Neurasthenia in Relation to Internal Secretions, by Leonard Williams; Neurasthenia in Relation to Eye-strain, by Ernest Clarke; the Work of a Tuberculin Dispensary, by Vivian B. Orr; the Use of Tuberculin in Diagnosis and Treatment, by J. H. Halls Dally; and the Preparation and Standardisation of Tuberculins, by Frank Curry. Several of these papers were published in our columns.——The *St. Thomas's Hospital Reports*, Vol. XL. (London: J. and A. Churchill. 1913. Pp. 217. Price 8*s*. 6*d*. net), are edited by Dr. J. J. PERKINS and Mr. C. A. BALLANCE. They contain for the most part an analysis of the practice of the hospital in its various departments. To these is added the Salter Research Report, 1911: On the Action of Certain Drugs, Toxic Bodies, Toxins, and Micro-organisms on the Fragility of the Red Blood Corpuscles of Man and Animals, by W. W. C. Topley, M B. Cantab, M.R C.P. Lond.——We have also received Vol. XXXI. of the *Transactions of the Royal Academy of Medicine in Ireland* (Dublin: John Falconer; London: Baillière, Tindall, and Cox; Edinburgh: James Thin; Bristol: John Wright and Co. 1913 Pp. 493), edited by J. ALFRED SCOTT, M A., M.D., F.R C.S.I. The Proceedings of this Academy are reported in abstract in our columns.——We have also received bound copies of two lectures: the Bradshaw lecture of Dr. DAVID BRIDGE LEES on the *Diagnosis of Incipient Pulmonary Tuberculosis* (London: H. K. Lewis Price 5*s*.), published in THE LANCET of Nov. 9th, 1912, and commented on in a leading article in that issue; and the Samuel Hyde Memorial Lectures, by Dr. WILLIAM GORDON, on *The Place of Climatology in Medicine* (London: H. K. Lewis. 1913. Pp 62 Price 3*s*. 6*d*.), which appeared in our columns on June 14th and 21st, 1913.

In *A Romance of Filey in the Days of Cromwell* (London: John Long, Limited. Pp. 63), "CAN POINT" tells in the iambic tetrameter of Sir Walter Scott the love story of a noble hunchback for the Lady Sylvia. The author is a medical man.——Few medical men have the time, even if they have the mood or capacity, to work out in literary form such visions of the future as Dr. W. WINSLOW HALL foreshadows in *The Peacemaker, a Retrospective Forecast* (London: A. C. Fifield. 1913. Pp 63. Price 1*s* net). The book is in the form of a drama in three acts, with intercanticles. The characters represent personifications of the nations, and Dr. Hall reiterates the teachings of self-effacing love inculcated by all the great religions. The ideal set forth is doubtless an eminently desirable one, but we find little evidence that human nature has yet evolved to a sufficiently high plane to render it attainable. The author's vocabulary is sometimes astonishing.

JOURNALS AND MAGAZINES

L'Hygiene—The September number of this admirable illustrated journal (MM Manzi Joyant et Cie, 24 Boulevard des Capucines, Paris) contains a very interesting article by Dr Horace Blanchon, entitled "Les Dispensaires d Hygiène Sociale," in which he deplores the ravages of tuberculosis in France and maintains the absolute necessity of founding dispensaries at once for its prevention An anonymous author, above the signature "XXX, contributes *an interesting* description of the epidemic of typhoid fever in Avignon last year Dr Linossier writes with a clever blend of the scientific and popular spirit upon what he terms alimentary anaphylaxis, Dr Maurice de Fleury, Dr Rochu Mery, and Dr Henri Meurisse *are among the other contributors* M Philéas Gilbert contributes the usual article on the cuisine of the month

The American Journal of Tropical Diseases and Preventive Medicine New Orleans The American Journal of Tropical Diseases Company Limited Subscription (countries in the Postal Union) $2 50 a year, single copies, 20 cents—We have received the August and September numbers (Vol I, Nos 2 and 3) of this new periodical, edited by Dr Creighton Wellman, which is the official organ of the American Society of Tropical Medicine We commented in THE LANCET of August 23rd p 579 on an article that appeared in the first number The numbers now before us consist largely of papers read before the last meeting of the association In the August number Dr Victor G Heiser writes on Further Experiences with Beri beri in the Philippine Islands, Major Weston P Chamberlain, U S Army Medical Corps on the Character of the Rice which Prevents Beri beri and the Manner in which it is Milled; Dr Creighton Wellman and Dr C C Bass on Polyneuritis Gallinarum caused by Different Foodstuffs, with Special Reference to the Effect of Commercial Rice-Coating on Neuritis Production, in which the authors arrive at the final conclusion as the result of a series of experiments that "there is more argument against the sale of these common articles of diet sago Irish potatoes and corn starch, than there is against the sale of rice, 'polished' or 'unpolished' milled or undermilled', Dr Carl Lovelace on Peripheral Neuritis in the Amazon Valley; Dr Bailey K Ashford on Sprue in Porto Rico and the Results of Treatment by Yellowed Santonin in which the conclusion is arrived at that santonin does not seem to be superior to a carefully supervised diet, especially a milk diet, and Dr Juan Guiteras on the White Race and the Tropics In the September number Major Eugene R Whitmore, U S Army Medical Corps, discusses Free-living and Parasitic Amoebæ and their Relation to Dysentery, Edward O Jordan, Ph D, writes on Disease Carriers among School Children (a paper read before the International Congress on School Hygiene, Buffalo September, 1913), Frederick Knab on Anopheles and Malaria, Dr Parker Hitchens on Serums and Vaccines in the Prevention and Treatment of Undulant Fever, Dr Charles C Bass and Dr Foster M Johns on the Cultivation of Malarial Plasmodia (Plasmodium Falciparum) in Vitro in the Blood of a Diabetic without the Addition of Dextrose in which it is shown that whatever influence dextrose—and this seems to be essential *for* the cultivation of malarial plasmodia in vitro—has on such cultures may also be produced by the blood sugar of diabetes A curious case is recorded of a diabetic of three years' standing who last July contracted malaria in Central America The fever and malaria persisted in this case in spite of sufficient quinine to control the usual case of malaria The authors suggest that this may have been influenced by the increased amount of dextrose in the *blood* stream

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

(1) RHODALZID (2) PERUGEN (3) VESICÆSAN AND (4) SILVER NITRATE AMPOULES

(CHEMISCHE FABRIK REISHOLZ ACTIES REITMEYER AND CO 63, CRUTCHED FRIARS LONDON E C)

1 Rhodalzid is a combination of the thiocyanate group with albumin, which it is suggested replaces the ordinary thiocyanates with therapeutic advantage *The thiocyanates* have been used in medical practice for the acute pains of tabes and also in arterio-sclerosis and migraine They appear in fact, to have a definite analgesic action but some observers have stated that the inorganic thiocyanates or sulpho cyanides have a disturbing effect upon the alimentary tract and rhodalzid is the outcome of these observations It is in short, an organic thiocyanate which is said to be free from secondary effects There is a suggestion that the presence of thiocyanate in the saliva is opposed to *caries, and the thiocyanates have been used in* caries and stomatitis Rhodalzid is hygroscopic the tablets submitted to us being quite soft, but apparently this does not lead to decomposition Rhodalzid strikes a fine red chestnut colour with ferric salts The tablets yielded no mineral salts on *incineration so we may conclude that* metallic thiocyanates were absent 2 Perugen is described as a synthetic balsam of Peru It contains at least 60 per cent of cinnamein, the normal constituent of the natural product It is employed in skin diseases depending upon *the attack of a parasite It has been used particularly* in scabies and as an antiseptic for wounds In these applications however the natural product has been known to produce disturbance of the kidney function, albumin appearing in the urine For perugen it is definitely claimed that no such action occurs 3 Vesicæsan is prepared from the leaves of *uva ursi*, the decoction having had some repute in the treatment of chronic cystitis and vesical catarrh The leaves contain a definite crystalline principle arbutin which is a glucoside Vesicæsan is prepared by a special process of extraction by which certain principles which are irritating in the digestive tract or the kidney are eliminated In addition vesicæsan is much more acceptable to the palate than the ordinary infusion of bearberry leaves 4 We have examined the contents of the silver nitrate ampoules, the solution being prepared at a definite strength suitable for application as a prophylactic in ophthalmological practice The solution being hermetically sealed keeps the desired strength With the ampoule is supplied a pipette which is plugged loosely at its pointed end with a wad of cotton wool The cotton wool projects somewhat so that in applying the drops to the eye any contact of the glass edge of the pipette ought to be avoided

BAD EMS SALTS

(HERTZ AND CO 9 MINCING LANE, LONDON E C)

The salts of the thermal *springs at Ems in Hessen-Nassau* Germany, are quite simple in character They consist principally of sodium bicarbonate and sodium chloride Other salts occur, but in smaller quantities Routine treatment at the spa has shown the value of these waters chiefly in catarrhal affections of the mucous membranes Further, the decided alkalinity of the water probably accounts for the favourable results recorded in rheumatism and urinary disorders A recent development has taken place at Ems in the installation of a plant which evaporates the waters in vacuo and produces a powder containing the active salts of the natural waters We have examined a sample of this powder and find that it contains the chief constituents of the natural water, and in the same proportions. Thus, we found it contained 65·52 per cent. of bicarbonate of soda and 30·42 per cent. of sodium chloride. Magnesium and calcium salts, however, which we found present in the bottle of water, were absent in the powder, probably because these naturally separate on concentration. Their presence, however, is probably not important. It is interesting to note that in the powder the sodium salt occurred as a bicarbonate and not as normal carbonate. The water we examined gave a total mineral residue of 2·94 grammes per litre. This contained 1·75 grammes of carbonate of soda, 1·05 grammes of sodium chloride, 0·13 gramme of calcium carbonate, and 0·068 gramme of magnesium carbonate. We also examined some pastilles which are useful for throat medication. These contained the same salts as the natural water. The water is more effective therapeutically when taken warm. The temperature of the waters at the source is from 83° to 135° F. They are probably radio-active.

PNEUMOSAN.

(THE PNEUMOSAN CHEMISCHE FABRIK, 157, GREAT PORTLAND STREET, LONDON, W.)

Pneumosan is described as an amyl-thiotrimethylamine compound. The justification of this title appears to be in the fact that amongst its important constituents are methylene blue, which chemically is tetra-methyl thionine hydrochloride, and valeric acid—the oxidation product of amyl alcohol. A third constituent, according to our analysis, is codeine phosphate. The pharmacology of these three constituents is well known. The combination has been tried as an injection in tuberculosis with results which are reported with a confidence that has attracted attention. Reports have appeared which apparently show that in the early stages of tuberculosis the administration of pneumosan is followed by a marked improvement in the condition of the patient. An abatement of fever is recorded, and rise in the opsonic index is said to take place. Reference is made to the value of the valeric acid in the product as influencing a favourable action over the nervous system. The preparation has been analysed and the results have been communicated to us. Our own examination bears out the statements in regard to the principal constituents. We found, for example, that on evaporation of the dark blue fluid a residue was obtained amounting to 1·70 per cent. This on incineration yielded a mineral residue equal to 0·11 per cent. On distillation valeric acid was obtained in the distillate amounting to 0·765 per cent. The same figure was obtained when pneumosan was extracted with ether, the ether taking out apparently the whole of the valeric acid. Further examination showed the presence of codeine combined with phosphoric acid. We found present codeine 1·427 per cent. and phosphoric acid 0·38 per cent. The physician will be helped in his opinion as to the therapeutic claims made for this preparation by a knowledge of its constituents, and we are glad of the opportunity of bringing this information to his notice. A note on pneumosan as a remedy for tuberculosis appeared in our columns of March 30th, 1912, and further reports have appeared in other publications.

ZYMINE PEPTONISING POWDER.

(FAIRCHILD BROS. AND FOSTER, ALBERT CHAMBERS, 64-65, HOLBORN VIADUCT, LONDON, E.C.)

The enzyme products of this firm are well known. There has recently been issued a smaller-sized package of the zymine peptonising powder which readily effects, amongst other things, the peptonisation of milk. The reduced size adds to the convenience in practical use of this agent. We have tried it in regard to the peptonisation of milk and the digestion of starch, and in both cases the results were satisfactory. It rapidly liquefied starch jelly, and ultimately converted it into sugar.

(1) "TABLOID" LYMPHATIC GLAND; (2) "KEPLER" MALT EXTRACT WITH GLYCEROPHOSPHATES; AND (3) "TABLOID" ADJUSTABLE HEAD DRESSING

(MESSRS. BURROUGHS WELLCOME AND CO., SNOW HILL-BUILDINGS, LONDON, E.C.)

1. The tabloid lymphatic gland supplies a convenient means of administering this organo-therapeutic substance. Treatment with lymphatic gland substance is based upon the view that when tonsillar enlargement occurs it is an attempt on the part of nature to increase the lymphoid tissue of the body. The trials in cases of enlarged tonsils and adenoids in children indicate that the snoring has been improved and the tonsils diminished in size. 2. Kepler malt extract is an excellent vehicle for the glycerophosphates which comprise the salts of calcium, magnesium, potassium and sodium. The extract shows a remarkable digestive activity on farinaceous foods, and we had no difficulty in confirming the presence of the glycerophosphates enumerated. 3. We have already described a tabloid adjustable head dressing the convenience of which threatens to replace the old roller bandage. The dressing is now issued in a large size, and therefore supplies a covering in circumstances where the primary dressings require increased accommodation. The numerous useful applications of this head dressing will easily occur to the surgeon. The dressing is compressed, and so far justifies its description of a tabloid. At any rate, when packed it goes easily into the waistcoat pocket.

MALT EXTRACT WITH HÆMOGLOBIN.

(A. WANDER, LIMITED, 1 AND 3, LEONARD STREET, FINSBURY, LONDON, E.C.)

This is a crystalline preparation comprising the extractives of malt, which include its active digestive principle. It is reinforced with hæmoglobin. We found that on boiling a solution of the preparation a coagulation occurs which carries with it the colouring matter. Viewed with the spectroscope the solution showed the characteristic absorption lines of hæmoglobin. The combination appears to be a useful one in cases where the administration of assimilable iron is indicated. The preparation is palatable and is both a nutrient and hæmatinic.

CYSTOPURIN.

(A. WÜLFING AND CO., 12, CHENIES STREET, LONDON, W.C.)

Cystopurin is a compound of sodium acetate with hexamethylene-tetramine, the latter now being accepted as a useful bactericide for the urinary tract. The presence of sodium acetate is regarded as assisting the action. Sodium acetate, of course, is changed into the carbonate, and so favours an alkaline condition. The sodium salt is also diuretic. Cystopurin was favourably mentioned in a recent communication to our columns on tuberculosis of the urinary tract, by Mr. J. Howell Evans.[1]

THE AYMARD PATENT MILK STERILISER.

(THE AYMARD PATENT MILK STERILIZER COMPANY, LIMITED, ST. MATTHEW'S WORKS, IPSWICH.)

The principle upon which the effective action of this milk steriliser is based is quite simple. The apparatus consists of a container for the milk, beneath which is a boiler generating steam which travels through a jacketed space around the milk chamber. The milk is therefore not in direct contact with the source of heat; burning is avoided and the taste of the milk is not altered. The temperature obtained is, of course, that of steam at the existing atmospheric pressure, the milk chamber acting as a condenser. Following the directions supplied, confidence may be felt that sterilisation is accomplished by this apparatus.

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[1] THE LANCET, August 2nd, 1913, p. 273.

THE LANCET.

LONDON: SATURDAY, OCTOBER 11, 1913.

Education and Examination.

WE publish again this week certain selected addresses delivered at the commencement of the October session in the various medical schools, and among those addresses is one by Sir WILLIAM OSLER which, like every public saying of its distinguished author, merits close attention by those interested in the progress of the medical profession. *Sir WILLIAM OSLER, it will be seen, speaks* throughout as a frank critic of examinations; he finds overrated both their importance as a test to those who pass them, and their value as machinery for educational purposes. He does not go so far as some have done and suggest that examinations should be abolished, for he is a practical man, and realises that the public, who depend on our professional ministrations, should have a guarantee, itself open to test, that those on whom they rely for medical service are educated up to a certain standard. Examinations form the ready way in which it is possible for those responsible for the medical education of the country to make out a list of practitioners who can be publicly hall-marked as educated, but to allow this is not to allow that in the multiplicity of examinations lies the safety of the public or the elevation of the medical profession to any exalted academic level. We have before now expressed in these columns our entire approval of a motion introduced at the General Medical Council many years ago by that fine and clear thinker, Mr. T. PRIDGIN TEALE, which ran as follows: "That the present system of accumulated examinations and the enormous increase in the number of rejections resulting from it are not only unjust to the student, but damaging to medical education." The figures which Mr. TEALE depended upon in support of this motion indicated that the percentage of rejections at medical examinations had progressively risen from 12·4 in 1861, to 22·2 in 1876, to 34·8 in 1886, and to 41·9 in 1895, while, as Sir WILLIAM OSLER shows in the address which we publish to-day, the five years 1908-12 display a continuation of this significant movement. There can be no two opinions in the matter here—something is wrong when we regard such a percentage of rejections at examinations as the normal outcome of our methods of education.

The statutory period of studentship in medicine in this country is five years, and for practical purposes the time taken by the student to pass his necessary examinations is now seven years. Seven years is a large slab of any man's life, and when those years are taken between such ages as 19 and 26 they cover the flower of adolescence. Stronger in body perhaps, and for certain both richer in learning and more discreet in council, will the young man become, but never again for him can the days have quite the radiancy and flavour of youth. It is no light thing, therefore, that this precious period should in the case of our medical students be too often a period of muddle and mortification. Seven years is not too long a time in which to acquire a working knowledge of the medical profession; but, again, in the absence of any definition as to what constitutes a working knowledge of the medical profession, five years may not be too short a time. It is admitted now on all hands that the medical man must remain a student to the end of his days, and no medical men are happier than those who recognise this fact and who steadily maintain themselves in touch with their profession by attendance at post-graduate classes or by an interchange of views at scientific debates, where personal experiences can be collated and the latest general principles can be adopted with some fulness of knowledge. If the medical man is thus happy in adding to his store of wisdom, why, it may be asked, condole with the medical student because his time spent in adding to his store of wisdom grows longer? The point is that the medical student and the post-graduate student are not in the least comparable persons, while in speaking of the modern medical student we are speaking of a young man for whom it is probable that somewhere in his lengthy career of examinations mortification awaits him. The post-graduate student continues to work, as opportunities serve him, at the practical side of his profession, either in the direction which has for him the chief scientific appeal or that in which he feels that his knowledge particularly requires supplementing. In either case he works *con amore* along lines agreeable to himself, in order to satisfy his conscience, to realise his ideals, and perhaps to make as certain as possible of professional success of a desired sort. The medical student in entering for his first examination may be single-minded in his desire to get forward and to learn more. The rejected student works in no such spirit at all, and a vast number of our students are rejected at least once. In many instances there is with the rejected student an abiding sense of injustice. Of course, we know that very often that sense of injustice is not justified; on the other hand, it must be admitted that the element of chance plays a considerable part in the results of examinations, both pass examinations as well as competitive. In every final examination in medicine we may be fairly certain that some 15 per cent. of the candidates upon re-examination would change their places from rejected to passed, and *vice versâ*. Professor EDGEWORTH'S well-known figures in respect of examinations for the Indian Civil Service, the Home Civil Service, and the Army may be recalled. In these examinations he found in an ingenious manner the element of luck to be such that in any given examination the chances of displacement upon re-examination would amount to one-seventh. Again, there is a feeling, sometimes just and sometimes not, among many students that, although they do not happen to be able to satisfy an examiner with the answer expected, often the question is of the sort that in real life would have had no terrors, inasmuch as in real life either there would be time to clear up the point by consultation of books, or it would not matter in the least whether the point was cleared up.

Students who have grounds for considering that the element of luck is too high, or who feel that an examiner is trying to pose them rather than to ascertain the value of what they know, do not face re-examination with any great relish, and some are beaten before the fight begins.

What is the lesson to be drawn from the admitted fact that our system of examinations, however necessary and however honestly planned, may have a blighting effect upon what is best in the medical education of many of our students, leading too often to a waste of the time of both teacher and taught? Dr. WILLIAM HUNTER, of whose annual report as dean of the Charing Cross Medical School a large portion is published in our present issue, supplies interesting material for an answer, and the answer is coördination. Dr. HUNTER is speaking of London only; and the education of the London medical student is in a critical position, as we await anxiously the new scheme under which the University of London may prove itself a more vital and practical force in the education of our students, making full use of the splendid pathological material of the metropolis and of our unrivalled system of clinical training. But in London there are educated a very large percentage of all English medical students and not a few of those who receive their degrees or diplomas from other educational centres, and if order is introduced into the education of the London medical student we shall have taken a great step towards removing the general conditions of waste and disappointment. What are really necessary at the present moment are patience and adaptability. If with as little friction and delay as possible a new scheme comes into being for the education of the London student possessing the admitted virtues of our present system, but having also a simplicity, economy, and effectiveness which results show to be lacking now, much indeed will have been accomplished. Those who are providing for the country with great zeal and self-sacrifice the national training of our young medical men are not of one mind in detail with regard to a metropolitan university; but as all alike deplore the multiplicity of examinations for which the student has to sit, and the inevitable interference with the smoothness of the curriculum which is caused by the scandalous number of rejections, we believe that differences of opinion, now so acute, may greatly disappear during the work of reconstruction. London should be able to show the way to employ clinical opportunities and pathological resources in the education of the medical student in such a manner as to transform examinations from vexatious and extravagant breakdowns into reasonable halts upon a well-planned journey.

The Rag Flock Act, 1911.

SINCE the measure known as the Rag Flock Act was passed in 1911 experience has shown that unless certain amendments are shortly introduced its salutary intentions may be defeated. The main purpose of the Act was to prevent the use of insanitary material, whether it was made from rags or anything else, in the manufacture of flock for *bedding*. It was an Act primarily designed to secure clean materials for the mattress on which we sleep, and no one is found to say that this is not an important matter. Judging from the attitude of some magistrates, however, there seems to be a disposition on their part to treat offences under the Act in a trivial way, and this is not in accord with the best traditions. Such an attitude may arise from an ignorance of the real importance of the aim of the Act or because the Act allows a freedom of construction which enables clear cases of offence to escape. It appears, according to the views of at any rate one sanitary authority—viz., the health committee of the corporation of Bradford—that the Act requires strengthening in regard to working definitions. The members of this committee have made, it seems to us, some trenchant suggestions in this direction. They have asked, for example, for a definition of the expression in the Act "flock manufactured from rags" so that it may include flocks whether made directly or indirectly from rags or from some one or more intermediate processes in the conversion of rags into shoddy cloth, as well as flocks developed in the milling, raising, cropping, and other processes which take place after shoddy cloth has been woven. They suggest, also, that the word "rags" shall include all fabrics whatsoever, whether woven or felted, which are admittedly destined for conversion into flock. These recommendations to the Local Government Board, made with the view of securing an amendment of the Act mean that there are deficiencies in the measure which permit a limited application of its provisions, or which lead to a failure to secure a conviction when an obvious breach of sanitary requirements has been committed.

We learn also that quite recently a practice has arisen which, while satisfying the Act in regard to the statutory limit of chlorine capable of being washed out of rags, may leave in the material undesirable solids and dirt. It may be remembered that the Act states that flock may be passed as having been satisfactorily cleaned or washed which does not yield to distilled water more than 10 milligrammes of chlorine in one litre of wash prepared on well-regulated lines. This test is based, of course, upon the probable presence of soluble impurities in the fabric, but leaves untouched the question of insoluble impurities. The Act would seem, in short, to provide for soaking the material, but not for the thorough washing of it, using that word in the sense of removing all impurities detachable by a washable process. It follows that a mere soaking of flock may fulfil the requirements of the Act in regard, that is, to the chlorine standard (soluble impurities), but the process still leaves the fabric unclean, dirt of all kinds and much objectionable matter not being eliminated by the ordinary process of soaking. The matter is simple in the case of linen. It is obvious that the mere soaking of a shirt in water will not render it clean or presentable, thorough washing is required to take away all evidence of soiling. That is what the Rag Flock Act should ensure in the case of rags intended for bedding if it is to succeed at all under the dignified title of a sanitary reform. On the face of it, it is difficult to suggest how the question of mechanical scouring, the removal of dirt and so forth, can be controlled by laying down a standard unless that control be an actual experimental washing itself. Possibly it may be practicable to add to the efficiency of the test by requiring, in addition to a limited yield of chlorine a minimum of colouring material or of attached impurities which are capable of being removed by the ordinary process of washing. The wash water could be examined both for chlorine and suspended impurities, and a minimum allowance imposed in the latter case as well as in the former. It is quite clear that if an efficient washing process has been conducted by the rag flock manufacturer he will have nothing to fear when such a test is carried out upon his material, for thorough washing would exhaust it of those very impurities which the sanitary officer would look for when an examination is made. The whole matter is of the first importance, and we beg to call the attention of all sanitary authorities to the existing situation.

Annotations.

"Ne quid nimis."

RELIGION AND SCIENCE.

UNDER the presidency of the Bishop of Winchester the fifty third annual Church Congress was held last week at Southampton. The programme challenged criticism by its boldness and novelty. Old questions were set aside and attention was centred upon the work of the Church in the life of to-day, faced as it is with the changes which must inevitably arise in days of progress and development. The deliberations, which were imbued with modern spirit, were concerned with such urgent social questions as the women's movement in its larger aspect, rural betterment, the ethics of property, and (as was appropriate in Southampton, a large port of exit to the great world) the difficult problem of the relation between civilised and backward races. The majority of the speeches on the position of woman indicated the opinion that her first duty was the maintenance and perpetuation of life, that a larger share in social service should be given to her, and that there should be increasing coöperation in public affairs which fall peculiarly within her influence between men and women; little direct allusion was made to the question of female suffrage. The problem of the races, which means much to Great Britain, the world's first colonising force, was discussed from many standpoints. The note of the Congress was that the advances of anthropological science would assist in the foundation of fruitful and successful government. It was felt that the control of backward races by a civilised Power must be "full, complete, and exercised in the light of day," and that although it seemed unwise to force education on people who did not want it, yet all nations and individuals should be given every opportunity for development. The Congress was in many respects a distinctive one and full of hope. It is too early to estimate its real value. But it has done much to establish high ideals, to help forward the cause of social progress and reform, and to forge new and closer [illegible] the Church and the affairs of our collective [illegible] ess as at the recent meeting of [illegible] ame obvious that the antagonism between religion and science is practically in abeyance. Science is, as Sir Oliver Lodge said in his stimulating Presidential Address to the British Association, an affair of the [illegible] intellect— [illegible] and that [illegible] much tried by the vast processes of examination that it now has to carry on, and the faculty of imagination is increasingly employed in these processes. As a consequence a healthy position has been reached in which the faith of the religious man can be respected by earnest scientific workers, while the huge undertakings of science can be supported by religious believers, who see in the stupendous facts revealed to them no contradiction to their beliefs and hopes.

SEPTEMBER AT HOME AND ABROAD.

UNLIKE August, which was cool for the time of year over the greater part of this country, September's temperature was at least equal to the normal, and over a large portion of the kingdom a little above it. In the matter of sunshine, too, it was relatively more generous than the preceding month, although it still fell somewhat short of the average, and was dull when compared with some of the brightest of past Septembers. Like both July and August, its rainfall was below the average in most localities, but not in such a marked degree. In the metropolitan area, as represented by Kew, the mean maximum temperature was 66°, or rather more than a degree above the average, while the mean minimum was 50°, also a trifle more than a degree above. The warmest and brightest weather came during the last week, when, under the influence of a wind current from the south, the sheltered thermometer rose to 70° or above on five days and only descended to about 55° at night. The first week was the most sunless ever recorded in September, and its remarkable dulness has been seldom surpassed even in the months November–January. At Kew the first seven days gave a total sunshine of only 8.6 hours, and at Bath 8.3 hours, but when the dense canopy of cloud had once been broken it never formed again for more than a day, and most of the remainder of the month was fairly bright. The aggregate number of hours at Kew was 127, against an average of 141. As many as 51 hours of the 127 were recorded during the last seven days. Rain fell on 12 days, and yielded a total of 1.73 in., a figure nearly a quarter of an inch below the average. At Bath the mean temperature was slightly higher both during the day and night than at Kew, while the sunshine was practically the same. The rainfall, on the contrary, was much heavier, owing chiefly to a sharp thunderstorm on the 5th. The aggregate figure was as high as 3.17 in., or 0.95 in. above the normal. Further north the mean temperature decreased. At Nottingham the mean maximum and minimum values were 65° and 48.5°, at Harrogate 62° and 49°, and at Buxton 60.5° and 46.6°. Both at Nottingham and Harrogate the total sunshine was about ten hours less than at Kew and Bath, but at Buxton it was about 20 hours less. At Buxton, although rain fell on no less than 18 days, the total fall was no more than 1.83 in., or 2.34 in. below the normal. On the south coast of England the mean maximum temperature differed little from that in London, but the mean minimum was appreciably higher. At Brighton the mean night was nearly 4° warmer than at Kew, and at Bournemouth 2° warmer. The weather was also much more sunny; at Brighton the total sunshine was more than an hour a day above that at Kew. The extreme south west of England had rather cooler days and milder nights than the rest of southern England and also more rain and less sunshine, but at Jersey the month was warmer, brighter, and drier than on any part of the main land of this country. The mean maximum temperature equalled 68° and the mean minimum 55°, while the sun shone during 191 hours, exceeding the average by five hours, and rain fell on only nine days, yielding the small total of 0.65 in. The Continental weather was normally hot and dry in Southern Europe, the temperature rising to between 80° and 90° in Italy and the Spanish Peninsula during the earlier half of the month, and subsequently to between 70° and 80°. In France the heat was not, as a rule, very great, and the general condition rather variable, with spells of showery, thundery weather, while in the central countries, where the greater part of the period was dry, the decrease in warmth during the latter half was very noticeable. At Paris the mean maximum temperature was 69°, or 3° higher than in London, and at Brussels 68°, but at Berlin it was only 65°. The mean minimum of the nights was nearly the same in all three capitals, being 49° at Brussels and 51° at Berlin and Paris. At Berlin there were only seven days with rain, and the total was no more than 1·66 in., and at Brussels eight days, with a total of 1·49 in. Paris, however, was rather less dry, rain falling on ten days, and giving an aggregate of 1·78 in. Paris was, relatively, more sunny than during August, a total number of hours equal to a little more than six hours daily being registered. In London the figure was little more than four hours daily. The greatest shade heat at Paris was 78° on the 3rd, a figure that was equalled in some parts of London towards the end of the month, but in the French capital the thermometer reached or rose beyond 70° on as many as 14 days. Brussels also had a temperature of 70° or above on 14 days, but at Berlin there were only five readings as high, as in London (Kew). The deluge that accompanied the thunderstorms in the extreme south of France on the 29th was comparatively local, but was extraordinary for the tremendous quantity of water falling in a short time. Over many thousands of acres the amount appears to have varied between 4 in. and 7 in., all of which fell within 24 hours.

THE ETIOLOGY OF RELAPSE IN MALARIAL INFECTIONS.

IT has been asserted by certain experts quite recently that while our knowledge of the malarial parasite, its morphology, mode of transmission, treatment, and prophylaxis is fairly complete, the etiology of relapse in this malady has not yet been satisfactorily determined. This is the more to be regretted since there are good grounds for believing that relapses in malaria lead often to more serious consequences than do primary attacks. The Department of Sanitation of the Isthmian Canal Commission began two years ago an inquiry into the various predisposing causes of relapse in malaria, with the object of verifying or excluding the several hypotheses at present current concerning the etiology of relapse, as well as to ascertain the best methods of prophylaxis and treatment against it. The material thus collected has not yet been fully dealt with, but meanwhile Dr. W. M James, physician to the Ancon Hospital, has discussed in the *Journal of Infectious Diseases* the various hypotheses put forward. His article is entitled "Notes on the Etiology of Relapse in Malarial Infections," and in it he directs attention more particularly to the two principal hypotheses advanced on this subject, both of them having one factor in common—namely, that relapse is due to the renewal of the asexual cycle of the malarial parasite to a degree when clinical symptoms become observable, and a resistance of the latent parasites, whatever may be their form, to quinine. In summarising his views, Dr. James says that if the hypothesis be accepted that the asexual cycle alone is the cause of relapse, and that under certain conditions there is established a relative immunity against quinine, an explanation is afforded of all the facts associated with the etiology of this condition. Relapse, he goes on to say, is one of the most common factors in malarial infection, and the asexual cycle is that phase of the parasites found to be most frequently connected with the primary infection and relapse. Relapse follows often upon the so-called spontaneous cure of malaria because the asexual cycle in such instances often persists in numbers which can be detected by the thick-film method. Infections treated insufficiently with small doses of quinine will in all probability relapse, because the parasites of the asexual cycle in the spleen and marrow are very slightly, if at all, affected thereby. On the other hand, relapse is less likely to occur when the infection is promptly and vigorously treated, for the older the asexual cycle the more resistant to quinine does it become. When a relapse occurs with manifestation of parasites in the peripheral blood during the administration of quinine by the mouth in sufficient doses, it is evident that there must be faulty absorption of the drug, and that the method of medication ought to be altered. The potential of vitality of the asexual generation is not unlimited, and owing to this, if death does not supervene in the course of a malarial infection, the infection itself will in time die out, but often not until it has done irreparable injury to the patient. It is easier to eradicate an infection in persons who are otherwise in good health, because in these cases the natural protective forces of the body aid the action of quinine. In Dr. James's opinion, the practical importance of the above hypothesis lies in the value it has as a guide to the treatment of malaria. Small doses of quinine even in the mildest infections serve only to render the asexual cycle relatively immune, so that larger doses, which if they had been given early in the attack might have exterminated the parasites, are at a later stage without effect. After numerous experiments with varying doses of quinine Dr. James, in conjunction with his colleague, Dr. W. E. Deeks, of the Ancon Hospital, came to the conclusion that the best method of treating malaria by quinine is to give 45 grains of the sulphate daily, dividing it into three doses, each of 15 grains. By this mode, it is contended, recurrent malaria has been practically banished from among the Americans in the Panama Canal Zone, and to a large extent among the European labourers employed on the Isthmus. But it has to be remembered that the latter are also heavily infected by syphilis, a complication which lessens the efficacy of the routine treatment of malaria until the syphilis itself has been successfully dealt with.

THE NATIONAL GAS CONGRESS AND EXHIBITION.

THERE is an extremely interesting collection of modern gas appliances on view at the National Gas Exhibition at the International Exhibition Halls, Shepherd's Bush, London, which was opened on Oct. 1st by the Lord Mayor of London in the presence of a large gathering of scientific, industrial, and municipal authorities The exhibition remains open until Nov. 1st. The occasion commemorates the jubilee of the Institution of Gas Engineers and the centenary of public gas-supply. The exhibition reflects the enormous progress that has been made in the methods of gas manufacture and in the appliances employed for utilising gas for power, lighting, and heating purposes. The demonstrations are of an instructive and practical character. An excellent series of popular lectures has been organised which is intended to familiarise the public with the proper and economical use of gas in domestic service. We note with special interest that many of the advances demonstrated give evidence of a regard for hygienic considerations, and this is particularly so in respect of gas stoves. The models now made by the leading gas firms excite our admiration for the excellence of their design, the economy with which they deal with gas as a fuel, and the methods adopted to secure comfortable and healthy warmth for domestic purposes. There is also an incidental display of the numberless by-products obtained in gas manufacture, including ammonia compounds, synthetics, dyes, antiseptics, and so forth. It is interesting to note that medical science owes much of its impetus to the gas industry. The gas industry supplied, for example, the early antiseptic workers with antiseptics, it furnished also a series of valuable antipyretics and anodynes, while bacteriology owes much of its advance to the aniline dyes which served to bring the organisms of disease into view and into differentiation. The exhibition, therefore, has many points of interest to medical men apart from the great public matters of efficient and healthy lighting and heating.

PERITONSILLAR ABSCESS EXTENDING DOWNWARDS AS FAR AS THE SECOND RING OF THE TRACHEA.

IN the *Boston Medical and Surgical Journal* of August 21st Dr. G. L. Richards has reported a case in which suppuration beginning in a peritonsillar abscess extended downwards as far as the second ring of the trachea. The patient was a well-nourished man, aged 42 years, who had enjoyed good health except for occasional attacks of quinsy. He went to hospital with a history of sore-throat for several days followed by difficulty in breathing and swelling of the entire left side of the face and neck. The left tonsil had been lanced on the previous day and again on the morning of admission but without relief, and the abscess had been enlarging. He was breathing with great difficulty, and there were occasional paroxysms of dyspnœa and coughing. The entire left side of the neck down to the clavicle was swollen and œdematous. Examination of the throat, which was done with difficulty, showed that the tonsil, lateral wall, and the supratonsillar area were intensely swollen. The pulse was 124 and the patient was nearly cyanotic. The skin of the neck was very tense, but no definite fluctuation could be felt. A large peritonsillar abscess was diagnosed. He was seated in a chair, the tongue was depressed, and an incision was made in the supratonsillar fossa. This caused a discharge of pus and a paroxysm of coughing. As this incision was made rather for diagnosis, it was small. An attempt was made to enlarge the opening. A gush of pus escaped, and at the same moment an inspiratory spasm, a cry, and cessation of breathing occurred. He was immediately placed on the operating-table. Unfortunately, no preparations had been made for tracheotomy, and in lifting the patient on to the table the knife was dropped on the floor and lost for the moment. A hurried call for a knife caused the assistant to bring a thin nasal chisel by mistake, and several seconds were lost before a knife was obtained. The head was placed somewhat over the edge of the table, the neck was put on the stretch, and an incision was made at the supposed site of the trachea. Much to his surprise, Dr. Richards entered, not the trachea, but an abscess. The abscess had burrowed downwards to a little below the second ring of the trachea, producing phlegmonous inflammation of the tissues of the neck, and had pushed the trachea well over to the right While the pus was still flowing the trachea was found and quickly opened. The patient was apparently lifeless, but the pulse was still beating. Artificial respiration was performed, and after a few seconds natural respiration began and a tracheotomy tube was inserted. The peritonsillar abscess and the abscess near the trachea were then widely opened with the aid of the finger. The two were found to communicate. The patient was kept in bed with his feet about a foot higher than his head for the next three or four days, a wick being inserted around the tracheotomy tube. The temperature, which was 101·5° F. on admission, slowly fell. An abundant discharge of pus took place from the mouth and at the side of the tracheotomy tube for a few days The tracheotomy tube was removed on the eighth day, and the patient was discharged from the hospital cured on the seventeenth day. The case illustrates the danger of allowing a peritonsillar abscess to develop. The pus probably forced its way through the fibres of the superior constrictor of the pharynx, which is in contact with the tonsil, and gained access to the prevertebral fascia. Following this fascia down the neck it came in contact with the larynx and trachea. It was an error to attempt to open such an extensive abscess without being prepared for tracheotomy.

HARD WATER AND OLD AGE.

A FEW months ago we received a communication from a lay correspondent in which he expressed his belief "that the lime in common water has much to do with bringing on old age." In an annotation entitled "Hard Water Fallacies," which appeared in our issue of June 28th, we said that the belief, although fairly common, was fatuous, pointing out that the amount of lime salts consumed in the daily diet was largely in excess of that contained in a daily allowance of the hardest water supplied to the community. In an interesting article published in another column of our present issue under the title of "Hard *versus* Soft Water," Dr. J. C. Thresh gives the results of an extended inquiry which he has made into the question of a possible relation between the hardness of water and the death-rates. His conclusion is that there is no such relation. Taking the averages for the five years (the period of his calculations) the differences between the death-rate for the area with the softest waters and the area for hardest waters is, he points out, in one instance (the metropolitan area) only 0 1 per 1000, and in the other (country towns) only 0 2 per 1000, whilst the moderately hard water areas taken together have a death-rate exceeding that of the hard water areas of from 0·1 to 0 2 per 1000. These differences he regards as so slight that only one conclusion can be deduced—namely, that the natural character of the water-supplies in this country has no effect upon the death-rates. Incidentally they confirm also a previous opinion which he expressed, that the filtered water from the sewage-polluted rivers, the Thames and Lea, is as wholesome as the water from our very deep wells and gravel springs. In 1893 the famous River Pollution Commission reported that "where the chief sanitary conditions prevail with tolerable uniformity, the rate of mortality is practically uninfluenced by the softness or hardness of the water supplied to different towns, and the average of mortality in the different water divisions varies far less than the actual mortality in the different towns of the same division." There is obviously a concordance of observations here which should place at rest the contention that an increased rate of mortality is favoured by hard water. It may be added, however, that a hard water-supply introduces enormous economic inconveniences, amongst which are the furring of the service pipes and fittings and a wastage of soap.

THE TYPE OF BACILLUS IN TUBERCULOSIS OF THE BONES AND JOINTS.

THE view that tuberculosis of the bones and joints is almost exclusively due to the human type of tubercle bacillus is emphasised in the *Deutsche Medizinische Wochenschrift* for Sept. 18th by Dr. B. Möllers, Koch's late assistant. His investigations in 12 cases of tuberculosis involving the bones and joints failed to demonstrate any but the human type of tubercle bacillus. Of the patients examined, three were between the ages of 5 and 16, the rest being older. Pure cultures of the bacilli were obtained in every case; in one case three cultures were obtained at different periods, and in another case two cultures. From the 15 cultures thus obtained 49 rabbits were inoculated with a dose of 10 mgm. each. These subcutaneous inoculations, which were to a certain extent supervised by Koch, conclusively proved, according to Dr. Möllers, that only the human type of tubercle bacillus was present. He has also collect [illegible] on this subject made by 15 workers in 163 [illegible] 12 cases already referred to) of tuberculosis of the bones and joints. Of these, only four were associated with the bovine type of bacillus. The remainder were undoubtedly due to the human type. In other words, only 2 45 per cent. of these cases showed the bovine type of bacillus. These conclusions are much at variance with those to which Dr. J. Fraser has been led by his recent examination of 70 cases of tuberculosis of the bones and joints. He found the human type of bacillus in 26 cases and the bovine type in 41, the remaining 3 showing a mixture of the two types. If Dr. Fraser's and the other workers' observations be compared with reference to the ages of the patients, it is seen that in children under 5 years Dr. Fraser finds the human type of bacillus in 27·27 per cent., and the bovine type in 72·72 per cent., while the other workers find the human type in 100 per cent. Between the ages 5 and 16 Dr. Fraser's figures show the human type in 55 per cent. and the bovine type in 45 per cent., while the other workers' figures show the human type in 94 54 per cent and the bovine type in 5·45 per cent. In adults over 16 Dr. Fraser has not found the bovine type once, while the other workers have found it in 2·2 per cent. Dr. Möllers argues that these differences cannot wholly be explained by the facts that all but three of Dr. Fraser's patients were under the age of 12, and that his material was gathered from a small area comprising Edinburgh and its immediate neighbourhood. He suggests that Dr. Fraser's conclusions should be accepted with reserve so long as the premises on which they are founded are not fully published.

INDUSTRIAL ANTHRAX IN LIVERPOOL.

IN an instructive paper read last year at the International Congress of Hygiene and Demography, and now reprinted, Dr. E. W. Hope and Dr. W. Hanna drew attention to the occurrence of anthrax in Liverpool among a population which does not come under the special provisions of the Factory Act in regard to that disease. These are principally the carters engaged at the docks and quays, who handle imported wool and hides, and the sorters in wool warehouses or skin stores. The Liverpool public health authorities have, in view of its occurrence in this way, declared anthrax to be a notifiable disease. In a period of about eight years 60 cases have arisen in connexion with the importation of these animal products. The majority appear to have been infected in the unloading or carting of hides, either loose or in bales, but 13 were engaged in handling or sorting wools, such as sheep's wool or goats' hair in wool warehouses, while 7 were infected from horsehair or bristles in hair factories. In the latter case the hair was derived from Russian sources; in the case of the hides infection seems to have been brought from all parts of the world, but chiefly from China and the East Indies. The site of invasion in the case of the dock labourers and carters was usually the cheek, but in some instances it appeared elsewhere as a result of the existence of a skin abrasion which became inoculated. The disease in persons of this class is apt to be specially severe, as, unlike the factory workers, they are not familiar with the existence of any risk from anthrax and do not recognise its early signs. The writers do not consider that the danger of anthrax from foreign imported animal products was diminished, but they find that the number of cases in Liverpool shows some tendency to diminish, which may be ascribed to greater care in handling material and to the efforts of the health department to bring to notice the various methods of prevention, short of disinfection, which should be adopted. Protective gauntlets have been provided by shipping firms in many cases, but the difficulty of getting the men to wear them is very great. But much is done by means of cautionary [illegible] the carrying of hides on the men's [illegible] mechanical means of removal, and like measures. In recent years the ear[illegible]e pustules and prompt treatment in [illegible] and [illegible] Sclavo's serum have materially diminished [illegible] cases.

AUTUMN COURSE OF DEMONSTRATIONS AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

INSTEAD of appointing special guides for visitors to the Museum the Council of the Royal College of Surgeons of England some years ago resolved to institute a series of demonstrations to be given by officers on the Museum staff. During the past five years these demonstrations have been well attended, although the aim of the demonstrators has been to appeal to the research student rather than to the candidates for ordinary examinations in surgery. The present course of demonstrations, which commences on Friday, Oct. 17th, at 5 o'clock, will consist of eight demonstrations, three being given by the conservator, Professor Keith, three by the pathological curator, Mr. Shattock, and two by the odontological curator, Mr. Colyer. The dates and subjects of the demonstrations will be duly noted in our "Diary of the Week." One of the most interesting of the series should be that given by Professor Keith on Oct. 17th, when a peculiar form of defective bone growth—described a few years ago by Porak and Durante, under the name of *Dystrophie periostale*—will be described and discussed. Two complete examples of this curious and instructive condition have been recently added to the Museum. The demonstrations are open free to all medical men and medical students, and cover subjects which are included in higher examinations in surgery.

REINFECTION AND SUPERINFECTION OF PRIMARY SYPHILIS.

THE discovery of the specific parasite, the study of experimental infection in animals, the application of an exact method of diagnosis, and the introduction of a new therapeutic agent are four important factors which have contributed toward revolutionising our old notions of many obscure problems of syphilography. There are two fundamental problems in the question of syphilitic immunity: (1) whether the immunity period coincides, or not, with that of the disease—that is to say, if the subject can be said to be immune only to such an extent, and so long as he is ill, or if, on the contrary, the state of resistance to infection lasts, and if so how long, after cure has taken place—i.e., after the extinction of all the specific parasites in any situation and under any form; (2) whether the immunity period is capable of *extension*—if, that is, to say, it must be interpreted as a condition of absolute resistance of the whole organism, or if, on the other hand, a partial resistance must be admitted as against a receptivity of some parts of the organism. Dr. M. Giuseppe has taken up the study of these problems, giving in a recent number of *Il Policlinico*[1] notes of four cases and a critical investigation of the cases of other observers. Such cases fall into two groups, one in which the clinical picture is made up of the complete development of two cycles of specific infection, while the other comprises cases in which one of these two cycles is incomplete and is therefore represented only by a form of primary infection without secondary manifestations. A study of these cases seems to

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[1] Il Policlinico, August, 1913. Medical Section, Fasc. B, p. 337. Roma.

show that there ex [illegible]
up by transitional [illegible]
especially by [illegible] 60
possible as a rule [illegible]
neo-infection and pseudo primary forms, it is impossible to distinguish accurately between reinfection and super-infection. Two essential and common facts stood out prominently in all the cases examined by the author—first, the intense and typical lymphatic and glandular regional reaction corresponding to manifestations of primary type; and secondly, the delicacy and precision with which the degree of deviation of the complement signalised modifications of the state of the patients' blood [illegible] with the disappearance or development of [illegible] forms.

FRACTURE OF THE LIP OF THE ACETABULUM.

IN the *Journal de Médecine de Bordeaux* M. J. Guyot has reported a case of one of those minor fractures which have received little attention because they could not be diagnosed before the introduction of radiography. A labourer, aged 41 years, was emptying a pit containing manure when he was surprised by a falling in of the earth and sustained a severe contusion over the left hip. He was thrown down and wounded in the scrotum by the handle of the shovel with which he was working. The wound was sutured by a practitioner and the patient was taken to hospital, where it was dressed, but he was not detained. Abundant suppuration followed, and healing was not completed for 48 days. After the accident he complained of pains shooting from the root of the penis to the left hip and sacro iliac joints. On examination it was observed that he walked with short steps. When he tried to walk more quickly he was prevented by pain in the hip. There was no deformity or vicious attitude of the limb. Pain was especially felt when he walked with long steps or endeavoured to separate his thighs, even when sitting. The only movement that was limited was rotation outwards of the thigh, which was painful. On movement articular crackling was observed, but this was found in other joints, especially the right hip and both knee-joints. A radiogram clearly showed that a fragment of the lip of the left acetabulum at the upper part had been broken off. There was a region of greater transparency in the neighbourhood, which suggested the existence of some osteitis. The outline of the femoral head and of the cotyloid cavity were very clear, as clear as on the opposite side. The patient was examined by an expert and pronounced to be suffering from a permanent incapacity which was estimated at 25 per cent. A fracture of this kind separating a fragment of the acetabulum is rare, and can be discovered only by systematic radiography.

PUBLIC RESPONSIBILITY TOWARDS PUBLIC SERVICE.

THE value of patient, persistent, and probably unobtrusive work in the library as well as in the laboratory still fails of proper recognition at the hands of those in this practical age who constantly use its results without recognising their dependence thereon. Such work supplies the motive power without which the engineer of progress would be unable to propel his vehicle. It is his control and effective direction, it is true, that produce useful work, but the necessary power he must have, and that power *is knowledge gained* by patient investigation in the laboratory, and research in the library. At the recent meeting of the British Association Principal E. H. Griffiths, in his presidential address in the Section on Education, urged the importance of making evident, to the [illegible] instanced the dependence of refrigerating processes on investigations of Joule and Thomson, of the electric[illegible] mear on the researches of Faraday, of the telegraphist on those of Volta and Wheatstone, of the [illegible] of N [illegible] mea [illegible] investigation; and the discoveries of Davy, of Pasteur, of Röntgen, and of Lister, as enabling them to enjoy in security, comfort, and health the fruits of their labours. And so it is also with library [illegible] will be found a review of the [illegible] The resc[illegible] reviewer points out, are of the greatest value for their bearing on public health questions, and should consequently be of interest to municipal bodies and sanitary authorities. It is, therefore, a matter of regret that the subscriptions in support of this most valuable work fall short of the expenditure by £112, which deficit the honorary director, Dr. H. R. Mill, has himself to meet. We feel sure it cannot be necessary to do more than call the attention of the numerous sanitary authorities throughout the kingdom to this fact. A very small individual effort on the part of each of them would remedy this injustice.

THE demonstration by Dr. Hideyo Noguchi, of the Rockefeller Institute for Medical Research, will take place at the Royal Society of Medicine on Monday next, Oct. 13th, at 5.30 P.M. The following will be shown: 1. Pure cultures of various spirochætæ (Treponema pallidum, T. pertenue, T. microdentium, T. macrodentium, T. mucosum, T. calligyrum, and T. refringens). 2. Transmission of syphilis to animals by means of pure cultures of Treponema pallidum. 3. Demonstration of Treponema pallidum in the brain of general paralytics. 4. Transmission of Treponema pallidum from the brain of general paralytics to the rabbit. 5. Production of symptoms and lesions resembling general paralysis in the rabbit by means of an intracerebral or subdural inoculation with Treponema pallidum. 6. Cultural studies of the virus of rabies. These will be demonstrated by the lantern slides and the real objects. Announcements have been made in the lay press for some days of certain discoveries upon which these demonstrations will bear. Dr. Noguchi, as related by our Paris correspondent a fortnight ago, has already given his important demonstration to the Institut Pasteur.

WE have been asked to state that copies of the catalogue of the Museum of the International Congress of Medicine may be obtained from the honorary secretary of the Museum Committee (Mr. H. W. Armit, Ravenhurst, Talbot-road, Wembley), on the payment of the postage (4*d.* per copy).

THE annual dinner of the London School of Tropical Medicine will be held at Prince's Restaurant on Friday, Oct. 24th, under the presidency of Dr. F. M. Sandwith.

GUY'S HOSPITAL MEDICAL AND DENTAL SCHOOLS.—[illegible] and prizes have been aw[illegible] university students (£[illegible] College, Oxford. [illegible] Eric Clark Hinde. [illegible] (£60): Frederick [illegible]ington. Entrance [illegible] (£100): Eric Roland Webb, Dean Close [illegible] Gordon Frank Peters. Certi[illegible]en, Oratory School, Edgbaston. Open Scholarship in Dental Mechanics (£20): Hugh Muir Smith. Scholarship in Dental Mechanics for pupils of Guy's Hospital (£20): George Dee.

HOSPITAL DINNERS.

St. Bartholomew's Hospital.—The annual old students' dinner, which marks the opening of the winter session, was held in the great hall of the hospital on Oct. 1st, under the chairmanship of Dr. Howard H. Tooth, C.M.G., physician to the hospital. Among the large company were Sir Dyce Duckworth, Sir Clifford Allbutt, Professor Howard Marsh, Sir Lauder Brunton, Sir Francis Champneys, Dr. Samuel West, Dr. J. A. Ormerod, and many of the present visiting staff, together with the headmasters of Haileybury, Wellington, and Westminster. The chairman, in proposing the toast of "Prosperity to the Hospital and Medical School," gave a short review of the past year's work, which he said had been one of activity in all departments. The teaching had become more and more organised, and specialists had now been appointed to take charge of each of the special departments, while the systematic lectures had disappeared. The petition for a charter of incorporation of the medical school had been presented early in the year. Referring to the report of the Royal Commission on University Education in London, Dr. Tooth said that these proposals would touch the hospital and medical school at many points and were engaging the earnest attention of the staff. True clinical teaching in England, which brought the student into personal contact with the patient, was the best in the world, and he hoped that that part of our English teaching would be treasured. The effect of the Insurance Act had been to reduce greatly the work of the out-patient and casualty departments, especially on the male side, but there was no evidence of much diminution among the in-patients. The toast was responded to by Mr. G. Acton Davis, acting treasurer of the hospital, who said that during the past year they had had to deal with many difficult problems of administration and finance. Both speakers made feeling references to the premature death of Mr. R. B. Etherington-Smith, and it was announced that the fund to his memory now exceeded £1700. The toast of "The Visitors" was proposed in an admirable speech by Dr. W. P. Herringham, Vice-Chancellor of the University of London, who referred to his aspiration that London University should become to its graduates what Oxford and Cambridge were to theirs, and spoke in praise of the English educational method and tradition. Sir C. Pardey Lukis, Director-General of the Indian Medical Service, and the Rev. Dr. Gow, headmaster of Westminster, responded. Dr. Gow said that he had followed with great interest the controversy on methods of medical education, and he was convinced of the value and importance of the knowledge gained from personal contact between teacher and student and from the *obiter dicta* of the teacher. The health of the chairman was proposed by Sir Anthony A. Bowlby, who spoke in warm terms of Dr. Tooth's personal qualities and of his services to the Officers' Training Corps. The toast was enthusiastically received, and after the chairman had briefly replied an adjournment was made to the library, where a most successful evening was brought to a close.

Guy's Hospital.—The opening of the school year was marked by a dinner in the College dining hall on Oct. 1st, at which the President of the hospital, Mr. Cosmo Bonsor, presided. Among others, the following gentlemen were present: Dr. W. Hale White, Sir W. Arbuthnot Lane, Dr. H. C. Cameron, Dr. Newton Pitt, Sir George Savage, Mr. R. Clement Lucas, Mr. C. J. Symonds, Sir Alfred Fripp, Dr. J. Fawcett, Dr. Herbert French, Mr. R. Wynne Rouw, Mr. Montagu F. Hopson, and Mr. J. Lewin Payne. After the usual loyal toasts the chairman invited the Dean, Dr. Cameron, to present the annual report of the Medical and Dental Schools. In doing so the Dean referred to the extraordinary activity which had been displayed in every department of the medical school throughout the year. Not only had the new pathological department been brought into smooth working order, but the opening of the session was marked by the simultaneous birth of three new departments, those of pharmacology, morbid histology, and chemical pathology, under the direction of Dr. A. J. Clark, Dr. G. W. Nicholson, and Mr. J. H. Ryffel, respectively—departments which were adequately housed, equipped, and staffed. With regard to the future of the medical school, while it would be folly to deny that the present time was a critical one for all medical schools in London, he was able to say this much: that while not a few other schools had sensibly declined, the medical school of Guy's Hospital had at least held its own and even increased its numbers during the past year; and that so far as the financial position of the school was concerned, thanks to the generosity of the governors and other friends, no single scheme for improvement which had won general approval had had to be withdrawn or even postponed for lack of funds. They had set themselves to develop and perfect, so far as possible, the peculiar system of clinical training which was the pride of all the schools of medicine in London, and he thought that the report of the past year's work showed that in this they had been eminently successful. Whatever changes the future had in store for them they had at least been successful in the work which immediately lay to their hand. Mr. Bonsor, in proposing "The Prosperity and Health of the Medical and Dental Schools," spoke of the recent extension of the medical school and the completeness of its equipment both for teaching and research, and said that during all the years in which he had presided over the meetings of the school the one thing which had struck him most had been the absolute determination of the governors and staff alike that no reason whatever should be allowed to stand in the way of securing efficiency in teaching and opportunity for investigation and research, and that no financial sacrifice to attain these ends could be too great. Dr. Hale White, who replied on behalf of the schools, spoke of the enormous debt of gratitude they owed to the long line of treasurers of Guy's Hospital, and especially to Mr. Bonsor, their chairman that evening. Undertaking office at the time of depression both in the hospital and school, he had guided their fortunes to the present unrivalled position. The service of Mr. Bonsor to the schools could never be over-estimated. The work which he had initiated was being admirably carried on by his successor in the office of treasurer, Viscount Goschen, who, to everyone's regret, was unable to be present that evening.

St. George's Hospital.—The annual dinner of the past and present students of St. George's Hospital was held on the evening of Wednesday, Oct. 1st, at Prince's Restaurant, London, Mr. W. Adams Frost, consulting ophthalmic surgeon to the hospital, being in the chair. Sir William Osler, who had delivered the introductory address earlier in the day, which is published in another column of this issue of The Lancet, was the guest of the evening. After the loyal toasts had been drunk, Mr. Frost in an interesting speech reviewed the circumstances which have led to the impending migration of St. George's Hospital from the site which it has occupied now for 180 years, and reminded his hearers of the interesting fact that amalgamation with the Westminster Hospital would mean the reunion of two long-divided bodies. Mr. West, the treasurer of the hospital, and Dr. R. S. Trevor, dean of the Hospital Medical School, replied, and the latter made a fighting speech on the position of the school, alluding to the brave front which it had presented in the face of many adverse circumstances which were alike unanticipated and uncontrollable. The aim of the school had always been, as Dr. Trevor maintained it should be, to turn out practical physicians and surgeons, adding that "if God made man, the Devil made the bookworm." Dr. Rolleston proposed Sir William Osler as "The Orator of the Day" in a happy speech, in the course of which he read out some of the questions from the famous examination paper on the "System of Medicine" which appeared in 1902 in the pages of *St. Thomas's Hospital Gazette.* Sir William Osler, in reply, explained, and not for the first time, what he really said and what he really meant with regard to the use of the lethal chamber after the age of 60. He amused his hearers by saying that he was only referring to persons of professorial rank, maintaining that professors should retain dignity of person, a charm of manner, and an abundance of hair that was not usually associated with advanced middle age. He pleaded guilty to being a bookworm, despite Dr. Trevor's aphorism, and concluded an excellent speech by the daring suggestion that if a medical degree upon fair terms was not soon provided for London students the students should combine and take the matter into their own hands. He suggested that a strike of students would solve the problem in a very short time. Dr. Drury Pennington proposed "The Past and Present Students of the

School," and the toast was replied to by Mr. Ivor Back and Mr. E. F. W. Grellier. The health of the chairman was neatly proposed by Mr. G. R. Turner.

King's College Hospital.—The annual dinner of past and present students of this hospital took place on Oct. 2nd at the Waldorf Hotel, under the presidency of Viscount Hambleden, chairman of the hospital and of the medical school. During the afternoon many past students visited the new King's College Hospital at Denmark Hill, and were conducted over the buildings by the Dean and other members of the staff, being afterwards entertained to tea. Among those present at the dinner were Surgeon-General A. W. May (Director-General of the Medical Department of the Navy), Sir C. Pardey Lukis (Director-General of the Indian Medical Service), Mr. A. Boyce Barrow (consulting surgeon to the hospital), Professor Nestor Tirard (senior physician to the hospital), Professor Sir Watson Cheyne (senior surgeon); Sir Ronald Ross, Sir StClair Thomson, Professor W. R. Smith, Professor Ernest White, and Dr. G. E. Shuttleworth. The health of the chairman was proposed by Sir Watson Cheyne, who spoke in warm terms of the exceedingly satisfactory relations which existed between the committee of management and the staff of the hospital. Not until that night had the chair of that dinner been occupied by a layman, but it was unanimously felt that an exception should be made on this memorable occasion, the eve of the opening of their new hospital at Denmark Hill. He was voicing the feelings of all present in expressing the hope that Lord Hambleden would be the chairman of King's College Hospital for very many years to come. Lord Hambleden in his speech explained the reasons which had caused the delay in completing the new hospital. These were largely due to the unfortunate disputes in the labour world during the last few months. He hoped, however, that in a very few weeks the hospital would begin its work, and he was sure the staff would find the building in every way as perfect [illegible] He desired especially to thank [illegible] the watching committee [illegible] labour which they had given during the work of building. To this was largely due the perfection of arrangements in the new hospital.

Middlesex Hospital.—The annual dinner of past and present students of Middlesex Hospital was held at the Trocadero Restaurant on Oct. 1st. Sir James Kingston Fowler, K.C.V.O., presided, and a large number of those connected with the hospital and their friends attended. Amongst those present were H.S.H. Prince Alexander of Teck, Sir Alfred Pearce Gould, Dr. W. Pasteur, Sir Squire Bancroft, the Mayor of Marylebone (Mr. J. Penton, jun.), Sir James Collie, and Dr. H. Campbell Thomson, Dean of the School. After the Royal toasts had been honoured, Sir James Fowler proposed the toast of "The Middlesex Hospital and Medical School." He referred to certain matters in the history of the school, especially mentioning the union of the hospital and school. Since the school had been managed by a joint committee, consisting of representatives of the managing body of the hospital and of representatives of the honorary staff and teachers at the school, great success had been obtained. Sir James Fowler referred in terms of deep sympathy to the death of Mr. Andrew Clark, who had been greatly attached to the school. He also spoke in high praise of the excellent work accomplished by Dr. Campbell Thomson as dean of the school. Prince Alexander of Teck, in responding to the toast, said that during the past year separate wards had been allocated for the treatment of patients suffering from skin diseases and for diseases of the eye and ear. In the near future it was hoped that the children's ward would be considerably enlarged, and that the sanitary arrangements of the wards in the south-west wing would be improved. Efforts were being made to put into the hands of the medical staff a sufficient quantity of radium in order that they might test its curative properties to the full. Dr. Campbell Thomson, responding for the school, said that a most satisfactory entry of new students had been obtained. Mr. R. Steer Bowker responded for the past students, and the senior Broderip scholar, Mr. A. O. Gray, for the present students. An excellent musical programme added to a most enjoyable evening.

St. Thomas's Hospital.—The annual dinner of the old students of St. Thomas's Hospital was held at the Hotel Cecil on Oct. 1st, the chair being occupied by Dr. H. P. Hawkins. In proposing the toast of the King, the chairman made reference to the close association between the Sovereign and the hospitals, and while proclaiming the late King Edward as pre-eminent in this respect, remarked that King George was a worthy successor. In proposing the toast of "St. Thomas's Hospital and Medical School," the chairman, after referring briefly to the past, turned his attention to the future, and endeavoured to forecast its trend. This, he said, was an era of change. Of course, there had always been change, and the hospital had adapted itself to such changes. But great and revolutionary changes were now taking place, and these would require considerable adaptation. Referring to the three duties of the hospital—to the patients, to teaching, and to research—he spoke of the necessity for the further organisation of research. The growth of specialism—which was inevitable in consequence of the increase of knowledge to such an extent that no man could compass it all—was such that the day of the general physician was rapidly passing, and soon the specialists would invade the wards, as they had already created for themselves special departments. Moreover, the field of work had now shifted from the wards to the clinical laboratories. He expressed the hope that before they met again a scheme for combined work among the various departments would have taken shape. Mr. J. G. Wainwright, the treasurer, in responding, referred to some of the effects of the Insurance Act. It had reduced the number of genuine out-patients, but had increased the number of casualties; the old-time "chronic" had disappeared. Further, a great many cases were being sent in to the special departments by the panel doctors. The advantage to the hospital in having a tuberculosis department in close contact with it was manifest. The massage department was becoming very large and a baby clinic had been lately established. He referred to the report of the Royal Commission on the University of London, and said that if its recommendations were carried out it would materially interfere with all hospitals. He spoke of a legacy left to the hospital by a former almoner who had recently passed away, which would probably be allocated to the reorganised out-patient department. Referring to the expected and deplored cloud hanging over them on this occasion last year, the retirement of Mr. G. H. Makins, he was glad to inform them that the cloud had lifted and that he was yet to remain a while in active service and coöperate in the reorganisation of the out-patient department. He spoke of Dr. Russell's illness and said that he would be back at his work again by the end of November. Finally, he mentioned that during his treasurership 1194 men had passed through the school and gained their diplomas. Dr. E. Stainer, the dean, also responded, and gave some school statistics. An interesting one was that a party of 30 from St. Thomas's Hospital had helped in the Balkan war. Mr. E. F. White proposed the health of the chairman, who responded. The meeting was a record one, nearly 200 being present, among whom were Surgeon-General Sir Launcelot Gubbins (Director-General, Army Medical Service) [illegible] May (Director-General, Medica[illegible] Alderman Sir Thomas Crosby, [illegible] V.O., Dr. F. F. Caiger, Dr. S. M. Copeman, Dr. E. Hopkinson, D.S.O., Dr. S. I. Oddie, coroner for Westminster, and Dr. F. M. Sandwith.

University College Hospital.—The annual dinner for past [illegible] students of University College Hospital Medical [illegible]oyal on Oct. 1st. The chair [illegible] past student of the hospital, Mr. C. J. Bond, of Leicester. The dinner was well attended. The chairman proposed the toast of "The Prosperity of the School" in a felicitous speech full of interesting reminiscences. In his witty reply Dr. G. F. Blacker, the dean, announced the successful state of the school as shown by noteworthy increase in fresh entries and the opening of new departments. Sir Victor Horsley consulting surgeon to the hospital, proposed the health of his friend [illegible]

[illegible] Stewart took the chair [illegible] present students of the [illegible]ool at the Imperial Restaurant, Regent-street, on Oct. 2nd. Proposing the toast of the evening, he referred to the approaching amalgamation of St. George's and Westminster Hospitals.

The principle had been accepted by the governing bodies of both hospitals, whic [illegible] e closely related. The newly amalgam [illegible] d schools would have to build a new [illegible] 500 beds in some part of London. It had been stipulated that every member of the present staff of both hospitals should retain a position equivalent to that which he now held. Dr. T. de Havilland Hall, in reply, said that the question of name had yet to be settled.

The London Hospital.—The annual old students' dinner was held on Tuesday, Oct. 7th, at the Savoy Hotel, Strand, W C., when Dr. Wilfred J. Hadley, physician to the hospital, presided over a good assembly. Dr. Hadley, in his speech proposing "Prosperity to the London Hospital," referred to the effect upon the hospital of the National Insurance Act. The reduction in the number of out-patients would mean, he said, a reduction in teaching material for the student; and so serious was this in the matter of tuberculous patients, who were all seeking sanatorium benefits under the Act, that it might be necessary to institute a tuberculosis department.

MEDICINE AND THE LAW.

Mental Deficiency and Provocation as a Defence to a Charge of Murder.

THE Court of Criminal Appeal had to sit recently during the long vacation in order to hear an appeal from a sentence of death passed upon a man named Thomas Alexander at the Central Criminal Court in September. The prisoner, who had received great provocation from his victim, was found guilty of the murder of a woman, Ellen Clarke, and was recommended to mercy by the jury. On the ground that he was mentally deficient an attempt had been made at the trial to induce the judge to put the case to the jury as one of manslaughter, but this he had declined to do; he explained to the jury the law with regard to sanity and insanity, and the jury did not find that the prisoner was insane when he committed the act, but recommended him to mercy, as mentioned above. It was argued on the prisoner's behalf that a thing might be provocation to a man on the border-line of sanity and insanity which could not be treated as a defence in respect of a man perfectly sane Mr Justice Darling, who delivered the judgment of the Court of Criminal Appeal, said that it was clear that the jury had held upon the evidence that the man was not insane in the legal sense, although they thought him mentally deficient. All sane persons were not of equal mental capacity, and the verdict meant that the prisoner was below the average mentally, but not across the border-line of sanity, and hence there had been a special verdict. The argument with regard to provocation was ingenious, and one which had not been raised before. If such an argument were allowed to carry weight and a man killed another because he had red hair, the act being done by a person mentally deficient, the judge would have to ask the jury whether the murderer, because he was a person mentally deficient, had sufficient provocation in the fact that his victim had red hair to render the verdict one of manslaughter instead of murder. There was no authority to support such a proposition. Only in very exceptional circumstances could mere words constitute such provocation as would reduce murder to manslaughter. The court must hold that the verdict was a proper one and dismiss the appeal, but it expressed no opinion that would limit the Home Secretary's action in the exercise of the prerogative of the Crown.

LONDON SCHOOL OF TROPICAL MEDICINE.—The winter session opened on Oct. 3rd with 60 students on the books. The additional laboratories, rendered possible by the fund raised by Mr. Austen Chamberlain, are being occupied for the first time. The new course in tropical sanitation and hygiene, open to students who have already attended the ordinary course, will be inaugurated this session, the first lectures being held about Oct. 20th. The increased accommodation for resident students has also been made available, and all the rooms have already been let. The annual dinner will be held at Prince's Restaurant, Piccadilly, W., on Friday, Oct. 24th, under the presidency of Dr. F. M. Sandwith.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

City of York.—The report for 1912, signed by Mr. E. M. Smith, school medical officer, and Mr. E. S. Galbraith, assistant school medical officer, is noticeable for the record of work done in the school clinic, which now carries on nearly all the different kinds of work possible to it, and for the presentation of the records of weight and height in conjunction with those of malnutrition. The clinic comprises a "general" department for the supervision of children unfit for school attendance, a treatment department for "minor" ailments, an ophthalmic, and a dental department. There are two whole-time school nurses, five attendance officers, and the whole of the work is well coördinated, the fact that the school medical officer is also medical officer of health materially contributing to this result. The figures for malnutrition show nearly 10 per cent. of children examined to be suffering from this defect; 10 per cent. also "had footgear so defective as to be practically dangerous to the wearer." Also, nearly 10 per cent. are seriously verminous. The "submerged tenth" appears to be a statistical reality. The weights of children are compared with the anthropometric committee's standard, and the total deficiency in weight for the total number of children examined is given as follows:—

—	Children examined.	*Deficiency in total weight as compared with anthropometric standard for various age groups in pounds.*	Number of children who would be represented by this weight deficiency.
1910	2,206	9,450	158 { 82 boys. 76 girls.
1911	4,152	14,645	208 { 106 boys. 102 girls.
1912	3,240	11,450	176 { 88 boys. 88 girls.

The total deficiency in weight represented as above in terms of children (calculated as belonging to different age-groups) thus represents the population of a fair-sized school. In other words, the malnutrition in York causes that city to be 542 children short. The question of the special education of such defective children as the feeble-minded and high myopes is receiving attention, and the whole field of medical inspection is gradually being brought under cultivation.

City of Sheffield.—Dr. R. P. Williams's report maintains the high standard of its predecessors and records the continuous growth of the work and the perfecting of the organisation. A valuable feature is the [illegible] acts Disclosed by Medical Inspection," [illegible] a bird's-eye view of the agencies cooperating in the very complete school antituberculosis scheme. A proposal is made to combat malnutrition by numerous centres for open-air instruction to which debilitated children would be sent. The record of a special investigation is given in Appendix A with regard to boots and clothing "to determine how far the condition of the child was due to the *poverty of the parents* and how far to neglect," but unfortunately this requires considerably more explanation than that given to make it of much value to those ouside the district.

City of Carlisle.—Mr. Joseph Beard's report for 1912 calls attention to sanitary defects in schools; the outside conveniences at one infants' school are described as being "in a disgusting and dangerous condition"; and it is very regrettable that any authority should allow such a state of things to continue. Unfortunately, the school medical officer has little or no direct control over the structure or condition of school buildings. A class for "delicate children" is held at Denton Holme, but it is to be hoped the authority will make up its mind to conserve the health of the children who are not yet delicate by *providing* suitable and sanitary school premises. The cheapness of the open-air school might well be considered if new buildings are required.

C [illegible] —Dr. G. Granville Buckley's report reco [illegible] n inspection clinic, one half-day a week having been set aside for this purpose and 176 cases dealt with. A fair proportion of defective children have been treated, but carious teeth, tuberculous diseases, and various [illegible] as needing further [illegible] nic is held at the town-hall on Monday, Wednesday, and Thursday at 4 P.M., and on Saturday at 10 A.M., and has done useful work. Dr. W. Allen Daley reports that 3966 children were examined in the year, and showed percentages defective: vision, 16 4; four or more unsound teeth, 34 3; and mouth breathers, 14 0 The cost of inspection for the 12 months is given as £489, and the cost per child 9 5*d* It is noted that owing to the migratory habits of parents of children in Standard II. throughout the borough 38 5 per cent. girls and 31 per cent boys had not been educated [illegible]

[illegible] Moore's report [illegible] ners in school, [illegible] dental caries [illegible] ointment of a school dentist, and a whole time officer is to be appointed. The parents attending at the inspections are always handed a note of the height and weight of their offspring, and take the greatest interest in these records. Attention is strongly called to the question of the type used in school books in relation to sight, and the report of the British Association Committee and the comments of the medical officer of the Board of Education are quoted. Children over 9 years should have bold "pica" type and below 9 years "double pica."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose [illegible] lle of this year is estimated [illegible] hs and 4651 deaths were [illegible] d Saturday, Oct 4th. The [illegible] se towns, which had been [illegible] the three preceding weeks, [illegible] the week under notice [illegible] the quarter just ended the mean annual death-rate in these towns averaged 12 7, against a corresponding rate of 11·8 per 1000 in the Metropolis Among the several towns the death-rate last week ranged from 3 6 in Wimbledon, 6 9 in Bournemouth, 7·0 in Swindon, 7·2 in Ilford, and 7·7 in Hornsey, to 20 8 in Aberdare, 21·9 in Sunderland, 23·2 in Tynemouth, 25 2 in Dewsbury, and 26 5 in Great Yarmouth.

The 4651 deaths from all causes were 285 below the number in the previous week, and included 866 which were referred to the principal epidemic diseases, against numbers declining from 1242 to 1081 in the three preceding weeks. Of these 866 deaths, 730 resulted from infantile diarrhœal diseases, 43 from diphtheria, 32 from whooping-cough, 28 from measles, 19 from enteric fever, and 14 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 2·5, against 3·3 and 3 2 per 1000 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 1104, 983, and 927 in the three preceding weeks, further declined to 730 last week; of this number [illegible] Birmingham 38 in I[illegible] Hull, 24 in Sheffield, [illegible] and 19 in West Ham. The deaths referred to diphtheria, which had been 36, 40, and 38 in the three preceding weeks, rose to 43 last week, and included 9 in London, 3 in Portsmouth, 3 in Preston, and 2 each in Cambridge, Great Yarmouth, Bristol, Stoke on-Trent, Birmingham, Salford, and Rhondda. [illegible] had risen from [illegible] to 32 last week; [illegible] 4 in Liverpool, 3 [illegible] Birmingham, Bol[illegible] measles, which h[illegible] ceding weeks, declined to 28 last week, and included 5 in London, 5 in Stoke-on-Trent, 3 in Bradford, and 2 each in Dewsbury, Barnsley, and Sheffield The deaths referred to enteric fever, which had been 10, 13, and 17 in the three preceding weeks, further rose to 19 last week, of which 4 occurred in London and 3 in Stoke-on-Trent. The fatal cases of scarlet fever, which had been 28, 18, and 19 in the three preceding weeks, fell to 14 last week, and included 2 in London and 2 in Birmingham.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had increased from 2112 to 2570 in the four preceding weeks, had further risen to 2818 on Saturday last; 499 new cases were admitted during the week, against 346, 473, and 508 in the three preceding weeks. These hospitals also contained on Saturday last 977 cases of diphtheria, 194 of whooping-cough, 65 of measles, and 61 of enteric fever, but not one of small-pox. The 1092 deaths from all causes in London were 74 fewer than the number in the previous week, and corresponded to an annual death-rate of 12 6 per 1000 The deaths referred to diseases of the respiratory system, which had been 132, 125, and 134 in the three preceding weeks, declined to 124, and were 67 below the number recorded in the corresponding week of last year.

Of the 4651 deaths from all causes in the 96 towns, 176 resulted from various forms of violence and 346 were the subject of coroners' inquests. The causes of 35, or 0 8 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in London and in 13 of its 14 suburban districts; in Manchester, Bristol, Bradford, Hull, Newcastle-on-Tyne, Nottingham, and in 55 other smaller towns Of the 35 uncertified causes of death, 4 were registered in Birmingham, 4 in South Shields, 3 in Liverpool, 3 in Darlington, and 2 each in Stoke on-Trent, West Bromwich, and Southport.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259 600 persons at the middle of this year, 1051 births and 627 deaths were registered during the week ended Saturday, Oct 4th. The annual rate of mortality in these towns, which had been 16 4, 14·4, and 15 1 per 1000 in the three preceding weeks, fell to 14·5 per 1000 in the week under notice. During the thirteen weeks of the quarter just ended the mean annual death-rate in these towns averaged 14·3, against 12·7 per 1000 in the 96 large English towns Among the several towns the death rate last week ranged from 7 5 in *Kilmarnock, 9 5 in Hamilton, and 10 2 in Falkirk, to 17·4* in Greenock, 17 9 in Dundee, and 20 8 in Leith

The 627 deaths from all causes were 26 fewer than the number in the previous week, and included 81 which were *referred to the principal epidemic diseases, against 94 and* 90 in the two preceding weeks. Of these 81 deaths, 43 resulted from infantile diarrhœal diseases, 14 from diphtheria, 8 from measles, 7 from scarlet fever, 5 from whooping-cough, and 4 from enteric fever, but not one from *small-pox* These 81 deaths from the principal epidemic diseases were equal to an annual death-rate of 1 9, against 2 5 per 1000 in the 96 large English towns The deaths of infants (under 2 years of age) *attributed to diarrhœa* and enteritis, which had been 96, 62, and 55 in the three preceding weeks, further declined to 43 last week, and included 18 in Glasgow, 9 in Dundee, 4 in Edinburgh, 4 in Aberdeen, and 3 in Leith *The deaths* referred to diphtheria, which had steadily increased from 5 to 10 in the five preceding weeks, further rose to 14 last week; of this number 5 occurred in Aberdeen, 4 in Glasgow, and 2 in Edinburgh The fatal cases of measles, which had been 12, 9, and 10 in the three preceding weeks, fell to 8 last week, and comprised 7 in Glasgow and 1 in Edinburgh. The deaths attributed to scarlet fever, which had been 4, 4, and 5 *in the three preceding* weeks, rose to 7 last week, of which 2 were registered in Aberdeen. The 5 deaths referred to whooping-[illegible] including 3 in Glasgow, were slightly below the [illegible] in recent weeks Of the 4 fatal cases of *enteric* [illegible] ere recorded in Glasgow, 1 in Dundee, and 1 in [illegible]

[illegible] ths referred to diseases of the respiratory organs, [illegible] been 65, 63, *and 66 in the three preceding weeks*, further rose to 69 last week; 27 deaths were attributed to different forms of violence, against 17 and 26 in the two previous weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 696 births and 415 deaths were registered during the week ended Saturday, Oct. 4th. The annual rate of mortality in these towns, which had been 21·1, 19·8, and 21·0 per 1000 in the three preceding weeks, declined to 18·0 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Irish towns averaged 18 2 per 1000; in the 96 large English towns the corresponding rate did not exceed 12·7, while in the 16 Scotch towns it was equal to 14·3 per 1000. The annual death-rate last week was equal to 20 1 in Dublin (against 12 6 in London and 14·8 in Glasgow), 13·2 in Belfast, 21·8 in Cork, 21·6 in Londonderry, 23·0 in Limerick, and 38 0 in Waterford, while in the remaining 21 smaller towns the mean death-rate was equal to 17·9 per 1000.

The 415 deaths from all causes were 68 fewer than the number in the previous week, and included 94 which were referred to the principal epidemic diseases, against 120 and 103 in the two preceding weeks. Of these 94 deaths, 78 resulted from infantile diarrhœal diseases, 5 from scarlet fever, 4 from whooping-cough, 3 from enteric fever, and 3 from diphtheria, and 1 from measles, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 4·1 per 1000; in the 96 large English towns the corresponding rate was 2·5, while in the 16 Scotch towns it did not exceed 1·9 per 1000. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 111, 98, and 84 in the three preceding weeks, further declined to 78 last week, and included 26 in Dublin, 15 in Belfast, 8 in Londonderry, 6 in Portadown, 5 in Cork, 5 in Waterford, and 3 in Queenstown. The deaths referred to scarlet fever, which had been 4, 6, and 3 in the three preceding weeks, rose to 5 last week, and comprised 3 in Belfast and 2 in Dublin. Of the 4 fatal cases of whooping-cough, which were slightly below the average in recent weeks, 3 occurred in Galway and 1 in Dublin. The 3 deaths referred to diphtheria and 2 of the 3 deaths to enteric fever were recorded in Dublin. The fatal case of measles was registered in Newry.

The deaths referred to diseases of the respiratory system, which had been 41, 56, and 60 in the three preceding weeks, declined to 34 in the week under notice. Of the 415 deaths from all causes, 121, or 29 per cent., occurred in public institutions, and 7 resulted from various forms of violence. The causes of 16, or 3·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Deputy Surgeon-General Richard Aubrey Fitch has been placed on the Retired List (dated Sept. 27th, 1913).

The following appointments have been notified:—Fleet-Surgeons: J. E. Coad to the *Terrible* and for group of ships of Third Fleet; H. H. Pearse to the *Commonwealth;* F. J. Burns to the *Orion*; E. B. Townsend to the *Vernon;* J. C. Rowan to the *Audacious*, on commissioning, and as acting interpreter in German; and J. E. H. Phillips to the *Leander*, and for duty with torpedo boat destroyers. Staff-Surgeon: F. E Anley to the *Weymouth*, on recommissioning; K. D. Bell to the *Victory*, additional, for disposal, and to the *Audacious*, on commissioning. Acting-Surgeon: P. B. Wallis to the *Victory*, additional, for Haslar Hospital, and for course of instruction at Naval Medical School, Greenwich College, and Royal Naval Hospital, Haslar.

ROYAL ARMY MEDICAL CORPS.

Royal Army Medical Corps Training Establishment: Lieutenant-Colonel Alexander A. Sutton, D.S.O., Royal Army Medical Corps, to be Commandant, vice Colonel George D. Hunter, D.S.O. (dated Sept. 20th, 1913).

Major Gerald S. Mansfield retires on retired pay (dated Oct. 4th, 1913).

Lieutenant-Colonel T. Du B. Whaite has been placed under orders to embark at Southampton for a tour of service with the Northern Army in India, and on arrival will be appointed for duty with the Third (Lahore) Division. Lieutenant-Colonel R. J. Geddes, D.S O., late senior medical officer at Jubbulpore Cantonment, has been appointed an Honorary Associate to the Order of St. John of Jerusalem by His Majesty the King. Lieutenant-Colonel J. Fallon has been appointed to hold charge of the Military Hospital at Lahore on transfer from Dalhousie Cantonment.

Major H. B. G. Walton has been transferred from the Military Hospital at Bareilly Cantonment to Ranikhet. Major W. B. Winkfield has taken up duty at the Military Hospital, Maymyo, Upper Burma, on transfer from Meiktila Cantonment. Major G. Mansfield has been appointed to hold charge of the Military Hospital at St. Peter's Barracks, Jersey, in succession to Lieutenant-Colonel E. Davis, who has retired from the service. Major G. Baillie has been appointed to the Military Hospital at Colchester, on transfer from Yarmouth. Major A. A. Seeds has been transferred from the Military Hospital at Rawal Pindi Cantonment and appointed Senior Medical Officer at Kuldhana, Murree Hills District. Major P. H. Henderson has been appointed to the Military Hospital at Portsmouth, on termination of a tour of duty at the Royal Army Medical Corps Camp of Instruction at Tidworth Park, Salisbury Plain. Major S. M. Adye-Curran has arrived home on leave of absence from Sialkot Cantonment. Major S. H. Withers has taken up duty as Senior Medical Officer at Dagshai Cantonment, Simla Hills District. Major A W. N. Bowen has been granted six and a half months' leave of absence home from India. Major J. Dorgan has embarked for a tour of service in South China. An exchange on the roster of service abroad has been approved by the Director-General between Major E. S. Clark, in charge of the Military Hospital at Holywood, and Major A. O. B. Wroughton, in charge of the Military Hospital at Maidstone. Major C. C. Cumming, specialist in bacteriology, has embarked for a tour of service at Malta. Major J. H. R. Winder has taken over medical charge of the Military Families Hospital, Wellington Lines, Aldershot. Major J. W. West has been appointed Specialist in Operative Surgery to the Second (Rawal Pindi) Division of the Northern Army in India. Major H. E. M Douglas, V.C., D S.O, has been placed under orders to proceed to Egypt for a tour of service. Major G. St. C. Thom has taken up duty as Deputy Assistant Director of Medical Services (Mobilisation) to the Second (Rawal Pindi) Division of the Northern Army in India. Major T. J. Potter has been appointed Clinical Pathologist to the Military Hospital at Cairo. Major C. T. Samman has been appointed Specialist in Mental Science to the Fifth (Mhow) Division.

Captain J. E. Powell has been appointed to the Military Hospital at Hilsea. Captain G. H. Rees has been transferred from medical charge at Mosney Camp to the Military Hospital at Belfast. Captain M. Keane has been placed under orders to embark for a tour of service with the Ninth (Secunderabad) Division. Captain O. Ievers has been appointed to the Military Hospital at Chatham. Captain T. T. H. Robinson has been transferred from the Military Hospital at Lichfield to Strensall for a tour of duty. Captain G. A. Kempthorne has been transferred from the Royal Army Medical Corps Camp of Instruction at Tidworth Park, Salisbury Plain, to Tregantle Fort. Captain R W. D. Leslie has been transferred from the Military Hospital at Gosport to Romsey. Captain M. C. Wetherell has been appointed to Kildare for duty at manœuvres. Captain L. Cotterill, instructor in musketry at the Royal Army Medical Corps Depôt, has been appointed to the First (Peshawar) Division of the Northern Army in India. Captain A. A. Meaden has been appointed to the Eastern Command for duty at the Military Hospital, Colchester. Captain W. H. Forsyth has been transferred from Tidworth Park, Salisbury Plain, to Netheravon for duty at the Cavalry School. Captain J. H. Campbell has been appointed to the Scottish Command for duty at the Military Hospital, Edinburgh. Captain H. C. Sidgwick has been appointed to the Royal Herbert Hospital at Woolwich. Captain J. McKenzie has been placed under orders for duty with the Eighth (Lucknow) Division of the Southern Army in India. Captain N. Low has been appointed to the Military Hospital at Cosham. Captain G. G. Tabuteau has qualified at the Royal Army Medical College for appointment as Specialist in Operative Surgery. Captain R. H. L. Cordner has been appointed to the Aldershot Command. Captain H. J. Crossley has been placed under orders to embark at Southampton on Oct. 22nd for a tour of service in India and has been placed under orders for duty with the Seventh (Meerut) Division of the Northern Army in India. Captain R. G. Meredith has taken up duty in the London District. Captain F. E. Roberts has been appointed to the Military Hospital at Shorncliffe and has been selected for appointment as Specialist in State Medicine. Captain T. H. Gibbon has taken up duty at King George V. Military Hospital, Dublin. Captain F. C. Lambert has been placed under orders for duty with the Sixth (Poona) Division of the Southern Army in India. Captain J. E. Hoar has been appointed to the Military Hospital at Chatham. Captain A. H. Jacob has been transferred from the Military Hospital at Dublin to Wicklow and appointed to hold medical charge at the Murrough Camp. Captain C. W. O'Brien has taken up duty in the London District. Captain R. E. Humfrey has joined the Military Hospital at Cork for a tour of duty. Captain A. D. Fraser has been selected for appointment as Specialist in Bacteriology. Captain R H. MacNichol has been placed under orders to embark for a tour of duty in Malta.

Lieutenant B. H. H. Spence has been appointed to the Second (Rawal Pindi) Division. Lieutenant W. F. Christie has taken up duty in the Straits Settlements. Lieutenant S. F. Sykes has been placed under orders for a tour of service in India, and on arrival will be appointed to the Third (Lahore) Division of the Northern Army. Lieutenant C. C. Jones has taken up duty in the London District. Lieutenant C. J. H. Little has joined the Northern Command. Lieutenant W. Stewart has relinquished duty at the Military Hospital, Colchester, and embarked for service with the Seventh (Meerut) Division of the Northern Army in India.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel V. Drake-Brockman, Agency Surgeon at Meywar, has been placed under orders for transfer to Bhagelkhand.. Lieutenant-Colonel W. Ronaldson Clark has been appointed to hold civil medical charge at Jullundur. The services of Lieutenant-Colonel W. E. Jennings have been placed at the disposal of H.E. the Commander-in-Chief in India.

Major A. Murphy has arrived home on leave of absence from India. Major J. Watson has been selected for appointment as Agency Surgeon to the Eastern States of Rajputana by the Foreign Department of the Government of India. Major H. A. F. Knapton has been appointed to officiate as Sanitary Commissioner to the Government of Bombay Presidency. Major C. G. Webster, of the Madras Medical College, has been granted two years' combined leave of absence home from India. Major W. M. Anderson, second-class agency surgeon, has been appointed Residency Surgeon to the Gwalior State. Major A. G. Sargent has been appointed Superintendent of the Lunatic Asylum at Rangoon, in succession to Major W. H. Cox, D.S O, granted leave of absence home from India. Major E E. Waters has been appointed to officiate as Professor of Materia Medica at the Government Medical College, Calcutta, during the absence on sick leave of Major D. McCay.

Captain H. P. Cook has been appointed to the United Provinces of Agra and Oudh for employment in plague prevention duty. Captain J V. Macdonald has been transferred from duty under the Home Department of the Government of India and reverted to military employment. Captain R. G. Croly has embarked at Bombay in medical charge of troops on board the s s. *Barjora* for service at Muscat. Captain H. N. H. Melhuish, plague medical officer at Rohtak, has been granted combined leave of absence home from India for six months. Captain N. S. Sodhi, plague medical officer at Gurgaon, has been transferred to the Ludhiana District. Captain H. C. Keates has been appointed to hold civil medical charge at Campbellpore on return to duty from leave of absence. Captain S. H. Lee-Abbott has been appointed Civil Surgeon at Ferozepore on termination of leave of absence. Captain E. T. Harris, civil surgeon at Toungoo, has been transferred to Bassein and appointed to hold civil medical charge in succession to Captain E. A. Walker. The services of Captain T. G. F. Patterson have been placed temporarily at the disposal of the Government of Bombay Presidency for civil medical employment. Captain J. M. A. Macmillan, civil surgeon at Hoshangabad, has been granted privilege leave of absence. Captain J. Cunningham has been placed on special duty under the Director-General I.M.S., at Barisal Jail, in connexion with the prevalence of dysentery in Eastern Bengal jails.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants to be Captains:—Charles M. Page (dated Sept. 14th, 1913). Edward T. Holland (dated Sept. 28th, 1913). William M. Biden (dated Sept. 30th, 1913).

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd Lowland Field Ambulance, Royal Army Medical Corps: Lieutenant James Young to be Captain (dated August 8th, 1913).

North Midland Mounted Brigade Field Ambulance, Royal Army Medical Corps: Lieutenant William M. Hewetson resigns his commission (dated Oct. 8th, 1913).

Welsh Border Mounted Brigade Field Ambulance, Royal Army Medical Corps: Major Alexander G. Hamilton to be [illegible] 18th, 1913).

[illegible] Royal Army Medical Corps: [illegible] ller, from the 6th London [illegible] my Medical Corps, to be Captain in the permanent *personnel* (dated Sept. 10th, 1913).

ROYAL NAVAL MEDICAL SERVICE: EXAMINATION FOR APPOINTMENTS AS ACTING SURGEONS.

At the examination for the Naval Medical Service held on Sept. 29th and Oct. 1st and 2nd, 13 candidates were successful and obtained the following marks:—

	Marks.
[illegible]	1703
[illegible]	1686
[illegible]	1643
[illegible] School, Dublin	1578
[illegible]	1515
[illegible]	1483
[illegible]	1470
[illegible]	1455
[illegible]	1455
[illegible]	1435
[illegible]	1418
[illegible] Ireland	1380
H. J. Hopps, M.B., Edinburgh University	1338

The maximum number of marks obtainable is 2400.

DEATHS IN THE SERVICES.

Deputy Surgeon-General Nathaniel Norris (late A.M S), at his residence, Chester, in his eighty-third year. He entered the service in 1855, and served with the Jowaki expedition in 1877 (medal and clasp). He was in the Afghan war of 1878-80, and was medical inspector on the lines of communication in the Soudanese Nile expedition of 1884-85 (medal with clasp and bronze star).

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Opening of the Medical Session.

Professor A. E. Boycott gave an address on Oct. 1st in the Medical School to inaugurate the session. He chose for his subject "The Aim of Pathology." Professor W. Stirling, in opening the course of lectures on physiology, gave an address under the title "Can you Believe Your Eyes?" The address was illustrated by many lantern slides of geometrical and other optical illusions, as well as by optical illusions of varying characters projected on the screen. He said that the wise saying of Solomon, "Hardly do we discern the things that are on earth, and the things that are close at hand we find with labour," still holds true. Illusions make up a large part of our daily life, while the fusion and continuity of impressions which give rise to many optical illusions are represented by the action of the thaumotrope and its latest offspring, the cinematograph. The light of the body is the eye, yet the great majority of mankind either do not see the fraction of w[illegible] their organs of vision or they fail to [illegible] hat is presented before them. Rusk[illegible] of vision that dwells in a man is the [illegible] man, and "to see clearly is poetry, pr[illegible] all in one." The [illegible] of sight is the one in which we believe most impli[illegible] and the one which gives us the largest store of information regarding the world in which we live. So confident are we that what we see must be true, that the expression "Seeing is believing" has passed into a proverb. The possible field of error is larger in the case of vision than in any other sense-organ. Many illusions have their roots in normal mental life. If on seeing an object we believe, and the belief is demonstrably wrong, there is an illusion. Pictorial art is largely based on illusions. In architecture the ancient Greeks corrected the unpleasant optical illusion which columns with perfectly straight edges suggest—namely, the appearance presented by the shaft of being narrower at the middle of the column. They therefore gave to the middle of the shaft an increased diameter—a process known by the name of entasis. The Greeks also applied the same correction to the apparently vertical sides of a tower. In the course of his address Professor Stirling showed experiments to illustrate the after-effects of scene movements, such as the effects produced by gazing for a short time at a waterfall and then turning our eyes to the contiguous rocks, when the rocks appear to move upwards with a velocity equal to that of the falling water. The production of coloured fringes from non-coloured objects was illustrated by Benham's spectrum-top. The subjects of irradiation, contrast, direction of lines, and objects seen under familiar conditions were presented and explained.

Professor Stirling in addition on Oct. 3rd gave a demonstration of new cinematograph films to students and medical men on "Some Applications of Cinematography in Physiology, and more especially in the Teaching of Physiology." Professing himself to be a convinced believer in the value of cinematography in the teaching of physiology, the lecturer presented first a series of films to illustrate the movements of microscopic animals by the method known as "dark-ground illumination"; then he showed the protoplasmic movements of amœba and of some animalcules which are propelled by means of ciliary motion. The same method was adopted to show the movements of the white cells of the blood of the carp, which have their nucleus at the hind end of the cell. The circulating movements of the protoplasmic granules and chlorophyll granules within certain water plants were projected on the screen. The actual growth of the protoplasm of slime-fungi at the circumference of the organism, as well as the remarkable reversible movements in the protoplasm itself, could be seen by the whole audience. The astonishing corkscrew-like movements of the organisms known as spirochætæ were next shown. The circulation of the blood in a small crustacean—an Isopod—was demonstrated. The latest advance in cinematography which is known as "ultra-cinematography" was also illustrated. In this method the successive phases of movement are "slowed down." Impressions of a movement, such as walking, running, or the flight of a bird, are taken at the rate of 180 images per second. These images were projected in the ordinary manner—i.e., 16 per second, so that the audience could analyse with perfect ease the successive movements of the human limbs in locomotion, as well as the graceful movements of a pigeon flying freely in the open air under perfectly normal conditions. The beating of the heart in the open chest, when normal and during asphyxia, was projected, the movements being slowed from 10 to 20 times their normal speed, so that the successive stages of these movements could be analysed by the unaided eye. It is now well known that living embryonic tissues can be cut from the living body and can be cultivated in appropriate aseptic media for many days after removal from the body. The study of surviving excised tissues *in vitro* has been specially prosecuted in America by Harrison, Burrows, Carrel, Lambert, and others, and in France more especially by Levaditi and Comandon. Professor Stirling showed a small fragment of a spleen removed from a developing chick, which was placed in a sterilised culture medium and kept at 37° C. The tissue lives for many days, and the audience could see the growth of the tissue itself, as well as the leucocytes emigrating from the piece of spleen and moving freely in the surrounding medium. A fragment of the embryonic heart of a chick showed the actual outgrowth in a radiate manner of [illegible] cells into the surrounding medium. [illegible] of the cells ceased to [illegible] and before the eyes of [illegible] to two new independent cells. The [illegible] ich a minute fragment of the heart fills the field of the microscope with fusiform cells in about eight hours.

Recommendations for Ambulance Provision.

In order to extend the ambulance service amongst the poorer classes the chief constable recommends that on the production of a medical certificate the free use of an ambulance be allowed to all householders who have, from all sources, an income of less than 35*s.* a week coming into the house. To secure the coöperation of medical men, and to prevent abuse as far as possible, practitioners should be supplied with a book of printed certificates, so that when called to a case requiring an ambulance they could fill in the certificate, giving the patient's full name and address, nature of disease, hospital to be conveyed to, and stating that in his opinion it was a case for free removal, and was non-infectious.

Mr. J. Carter Bell's Bequests.

Mr. Joseph Carter Bell, of Higher Broughton, public analyst for the county of Chester and for the county borough of Salford, after certain preliminary bequests, has divided the residue of his estate, approximately £30,000, into sixtieths, leaving three-sixtieths each to the Manchester Royal Infirmary, the Salford Royal Hospital, and the London Orphan Asylum at Watford. The remainder he bequeathed to relatives.

Oct. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Treatment of Tuberculosis in Edinburgh.

To meet the increased demand for accommodation for phthisis patients at the city hospital for infectious disease the public health committee recently decided to erect two large open-air shelters there, each to accommodate 60 patients. Each is in the form of an elongated shed with an entirely open front, which can be easily partially enclosed by means of screens. The administration accommodation is very complete, comprehending excellent kitchen and bathrooms, and there is a large dining hall and also recreation room attached to each shelter. There is now accommodation at the city hospital for 180 cases, and with these new quarters it will be possible to have the early cases—for whom treatment must now be provided under the National Insurance Act—living under a different roof from the more advanced cases, for whom alone up to the present provision has been made at the hospital. There are at present, therefore, 92 vacant beds.

The Declining Birth-rate in Edinburgh.

An interesting return in this connexion is that made by the Edinburgh school board regarding enrolments in the day schools, which show a decrease of 748 as compared with September of last year. This fall off in numbers has taken place in the elementary schools alone, the returns for the higher grade showing a slight increase. One notes that out of 57,170 houses in [illegible]) or under, no less than 32,377 [illegible], which is an increase of 1798 houses in this category as compared to this state of affairs last year. The special schools showed an increase in enrolments of 12, the total being 496.

Sanatorium Benefits in Midlothian.

A statement issued by the Insurance Committee for the county remarks upon the small demand for treatment in the sanatorium. During the year there were only 32 applications, and as five were refused as being unsuitable for domiciliary or sanatorium treatment, but 27 patients were taken charge of. As the committee is allowed 9*d.* per head over the number of insured persons, which was taken as 35,000, a considerable surplus is carried over, the expenses to the committee for cases treated being only £469 as regards sanatorium benefit.

Royal (Dick) Veterinary College, Edinburgh.

At the opening of the new session of the Royal (Dick)

Veterinary College, it was announced that operations for the erection of the new college buildings were progressing rapidly, and would be pushed on with all speed in order that the classes might be transferred from the old buildings at an early date. The cost of the new buildings is estimated at £65,000.

Memorial to a Tiree Medical Man.

An interesting ceremony took place at Baugh, Island of Tiree, on Sept. 29th, the occasion being the formal inauguration of the memorial recently erected to the late Dr. Alexander Buchanan, of Tiree. The monument is composed of a shaft of Aberdeen red granite, 10 feet high, resting on a solid granite pediment, encircled in a rough cairn of sea-worn boulders, the whole erection rising to a height of 17 feet from the ground. The eastern face of the pediment bears the following inscription:—"In loving memory of Dr. Alexander Buchanan, born at Callander 4th October, 1835, died at Tiree 29th April, 1911, for 51 years the medical officer and loved and valued friend of the islanders." At the unveiling ceremony reference was made by various speakers to the love and respect in which Dr. Buchanan had been held throughout the island.

The Tuberculosis Order in Glasgow.

The executive committee formed by the corporation of Glasgow under the Diseases of Animals Acts have brought forward a proposition that certain work should be transferred from the health department to their department with a view to assisting the veterinary inspector in carrying out the Tuberculosis Order, 1913. The Order from the Board of Agriculture and Fisheries aims at the destruction of bovine animals suffering from tuberculosis. If it is to be effectively carried out there should be a regular inspection of the dairies and byres within the city. The work of inspection, it is suggested, will be similar to what is being done at present, but in addition to that work arrangements will have to be mad[illegible] post mortem examination, and [illegible] bovine animals (not cows alon[illegible]rcasses. The veterinary inspector is to be authorised to deal with these matters, but where the owner does not consent to the slaughter of a tuberculous animal or its value exceeds £30 the inspector is to advise the town clerk, who shall communicate with the Board of Agriculture and Fisheries.

Special Reservists and Measles; the Outbreak in the Outer Islands.

At a meeting of the public health committee of Inverness-shire held on Sept. 30th, a letter was read from the headquarters, Scottish Command, in reference to the introduction of measles to the outer islands by special reservists. A resolution anent the matter passed at the last meeting of the county council had been forwarded to the chief medical officer of health, headquarters, Scottish Command. The following points were noted in the communication: 1. As the maintenance of the health of the troops is of very great importance, these soldiers are under constant and close medical supervision while in camp. The outbreak of infectious disease is thus discovered as soon as possible after the appearance of initial symptoms, and contacts are speedily isolated. 2. Every endeavour is made to ensure that [illegible] to mix with [illegible]y taken for [illegible]ial Reserve [illegible] complaints of the spread of [illegible] been received from other [illegible] men actually sick can be detained, it is not in the power of the military authorities to detain healthy men or contacts beyond their training period. To do so would require a special Act of Parliament. I may mention also that the financial aspect of this part of the question presents insuperable difficulty. The letter goes on to regret the occurrence of the epidemic referred to by Dr. Murdo T. Mackenzie, and to give assurance that every effort will be made in the future by the military medical authorities, as far as lies in their power, to prevent the repetition of such an unfortunate incident.

Diphtheria Epidemic in Aberdeen.

A severe epidemic of diphtheria is at present raging in Aberdeen. Fortunately the majority of the cases have not been of a severe type. On the advice of the medical officer of health the water-supply at the various schools in the city was turned off on the 26th of last month. At a meeting of the Aberdeen school board held on Sept. 26th the chairman, in answer to a question, said that he thought it was rather the use of the drinking mugs at the schools that was objected to than to the use of the water itself.

The late Dr. Gavin Tennent.

Dr. Gavin Paterson Tennent, whose death was recorded in these columns on Sept. 27th, bequeathed £25,000 to the University of Glasgow. A point in his life also, I think, deserves further mention. In his younger days he had a large experience of relapsing fever, a disease known only by name to the majority of the profession at the present day. In 1867, the year in which he graduated, there were many Glasgow practitioners who remembered the epidemic of relapsing fever in t[illegible] in eight months. [illegible] the city, Dr. Tenn[illegible] hospital then in Kennedy-street. At the end of October of that year the routine work of the wards became so heavy that elaborate clinical records could no longer be compiled, but Dr. Tennent had already collected copious data relative to 352 successive cases, and published an analysis of them in the *Glasgow Medical Journal* for May, 1871.

Oct. 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Medical Committee.

THE new Irish Medical Committee has issued a circular, copies of which are to be sent to the members of the profession by the secretaries of the various Local Medical Committees. An account of the formation of the Irish Medical Committee is given, and attention is drawn to the critical position in which Irish doctors have been placed by the statement made by Mr. Lloyd George in the House of Commons on August 14th, to the effect that, if a scheme could be devised for certification which was satisfactory to the medical profession and the Approved Societies, he would be prepared to ask Parliament to increase the grant by such amount as may be necessary, subject to the limit of 2*s.* 6*d.* per insured person which has been imposed. Further, it is pointed out that in the struggle which is likely to take place in Ireland over the extension of medical benefits—based on the recommendations of the Majority Report of the Treasury Interdepartmental Committee—the medical profession will have no security, except in its own united action, against the gravest injury to its status, its interests, and the efficiency of its work. An appeal is therefore made for financial support for the expenses of this struggle, and it is expected that members of the medical profession will forward not less than £1 as their present subscription. The difficulty is that the expenses of the Local Medical Committees—which are not small—must be met in the first instance.

Infantile Mortality in Dublin.

The high rate of infantile mortality in Dublin during the past few weeks gives cause for anxiety. In particular, the prevalence of diarrhœa and enteritis is alarming. To some extent the unusually dry season is responsible, but it cannot be doubted that the distress consequent on the industrial dispute has made matters much worse. In the four weeks ending Sept. 27th there were 107 deaths of children under 2 years of age from diarrhœal diseases. It is noticed by residents in Dublin that the number of flies has been abnormally great this autumn, and [illegible] a factor in the spread o[illegible] the propagation of flies [illegible] the cleansing of lane[illegible] corporation. The streets and lanes in charge of the corporation are, however, far from clean, and no attempt is made to enforce the law against private owners. An instructive correspondence has passed between the public health committee and another committee of the corporation, the cleansing committee. The former requested the latter to water the streets before sweeping, in order to keep down the dust. The cleansing committee replied that the water in the city reservoir was low, and economy was required. In response the public health committee pointed out that water could readily be obtained from the canals for watering the streets. Of this suggestion no notice was taken, and on the rare occasions when the streets are swept the dust is raised in clouds to the tops of the houses.

Treatment of Tuberculosis in Belfast.

The scheme for the treatment of tuberculosis devised by the corporation of the county borough of Belfast having now been approved of by the Local Government Board for Ireland, and the Treasury having now written to guarantee the share to be borne by them, which will amount to £16,745 13*s.* 4*d.*, according to the estimate, the arrangement will shortly come into being. The White Abbey Sanatorium, built and at present run by the Belfast board of guardians, is to be taken over by the city corporation. In the meantime, a very keen canvass is going on for the post of chief tuberculosis officer, who is to have a salary of £600 a year.

Oct. 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Académie de Médecine.

THE permanent secretary of the Académie de Médecine has been authorised to accept in its name the legacy of M. Pannetier, made in his will dated Dec. 10th, 1908. This legacy consists of 100,000 francs, the proceeds to be devoted to the establishment of an annual prize for the author of some discovery in medicine or surgery, or to any person who shall be distinguished for the application of recent discoveries. If during one or more years the prize cannot be awarded, the interest is to be added to the capital, to augment the proceeds in the ensuing years. The sum bequeathed is to be invested in French three-per-cents. in the name of the Académie de Médecine, the destination of the proceeds being duly recorded.

The Sale of Poisonous Substances.

Oct. 7th has been set aside for discussion at the Académie de Médecine of a proposition advanced by many of the members for a Bill to modify the ordinance governing the sale of poisonous substances. At present no one who does not hold a pharmacist's diploma or is not authorised by the laws in force to dispense medicines under exceptional conditions to his patients may supply for use in human or veterinary medicine the poisonous substances contained in Table A, which may be dispensed only on the prescription of a medical man, of a veterinary, or of persons authorised especially to prescribe them. The author of the prescription must sign and date the prescription and give his name and address and the doses of the said poisons, and must indicate their mode of administration. Ergot and corrosive sublimate may be supplied on the prescription of a midwife. In default of any contrary indication by the author, every prescription containing poisonous substances in Table A may be repeated by pharmacists, but prescriptions containing aconitine or its salts, hydrocyanic acid, potassium cyanide, digitaline, hashish and its preparations, strophanthine, veratrine or its salts, may not be repeated either by the pharmacist who first dispensed the prescription or by any other. The same prohibition extends to prescriptions ordering the alkaloids of opium or cocaine, as well as their salts or derivatives, but only when these products are prescribed by themselves or in the form of solutions for injection. It applies also to powders with a cocaine base or one of salts containing these substances in a proportion of or above 1 per cent. Pharmacists must enter their prescriptions on a register and enter also renewals thereof. When they retain the prescription they must return to the patient a signed and dated copy. These articles of the law leave many loopholes. It appears insufficient to authenticate prescriptions by signing and dating them and legibly appending the name and address. It would be a good plan to enjoin the use of a stamp or an adhesive wafer bearing the name and address of the medical man, together with his number on the official register. It is also very dangerous for the medical man as well as for the pharmacist, and opposed to the interests of the public health, to permit the repetition of any prescription containing poisonous subjects without renewal by its author; first, because the prescription was written to apply only to a determined condition, and the medical man alone can determine other cases in which the prescribed medicaments are suitable; next, because, since it is forbidden to supply the drugs without a prescription from a medical man, it may be equally or even more dangerous to repeat them without the advice of him who is the sole judge of the fitness of repeating them. Dr. Desesquelles therefore proposes to replace this entire article of the law by the following: In the absence of any contrary indication by the author of the prescription, no prescription containing any of the poisonous ingredients in Table A may be repeated by pharmacists. The supplying of aconitine or its salts, of hydrocyanic acid, of potassium cyanide, digitaline, hashish or its preparations, must not be repeated without a fresh prescription from a medical man, the prescription being dated and legibly signed and bearing the medical man's name and address.

The Collège de France.

The Minister of Public Instruction has signed the decrees whereby the number of chairs in the Collège de France is reduced from 43 to 40, the suppression to take place as the chairs fall vacant. The annual salaries of the 40 professors of the college are fixed at 12,000 francs.

Conferences on Electricity, X Ray, and Radium.

The Société des Médecins Chefs des Laboratoires de Radiologie et d'Electro-radiothérapie des Hôpitaux de Paris organises twice yearly, in November and May, a series of theoretical and practical conferences on electricity, X ray, and radium, lasting for one month. The first series will take place from Nov. 3rd to Dec. 2nd of this year in the amphitheatre of the Hôpital de la Pitié, 83, Boulevard de l'Hôpital, for the theoretical part. The practical part—that is to say, practical demonstrations in electrology, X ray work, and radium work—will be held in the mornings in the laboratories of radiology and of electro-radiotherapy of the Paris hospitals. Those attending will be divided among the various hospitals in parties of ten at most. The parties will be formed at the close of the conference on Monday, Nov. 3rd. There is no subscription. Intending entrants must register with Dr. Delherm, Hôpital de la Pitié, or with Dr. Aubourg, Hôpital Boucicaut.

Attempted Murder of a Medical Man by a Madman.

Dr. Philippe, who is at present doing duty for a *confrère* at Saint Mandé, was called to see a man aged 25 Shortly before midday the medical man, on presenting himself at the address given, was received by the patient, who took him into the dining-room and offered him a paper to read. The paper contained an inconsequent jumble of words. Unsuspectingly the doctor examined the patient, auscultated him, and put a few questions. Suddenly the patient seized a couple of knives and threw himself on the doctor. The latter seized his aggressor by the wrists and with a violent effort forced him into a corner, then hurriedly escaped, not, however, before he had been wounded, though only slightly, on the hand, the left eyebrow, and the upper lip.

Burglars at the Hôpital de la Charité.

An attempt has been made to rob the strong room of the Charité, but the thieves succeeded only in carrying off some 20 francs that they found in an office drawer. An unsuccessful attempt was made to open the strong room with a false key. It has been clearly shown that the thieves could not have broken in at night, but must have been in the building, and are probably there now. Both honest men and rogues are taken care of at the hospital. Pay-day for the *personnel* is on the 29th of each month. On the 28th the cash—some 50,000 francs—is brought from the bank and placed for the night in the safe. The thieves were certainly acquainted with this detail, since they attempted their *coup* on that day. But the 28th being a Sunday the money had not been brought, and the strong room contained only the remainder from the last pay-day.

Oct. 6th.

GUILD OF ST. LUKE.—At the annual service of the guild, which will be held in St. Paul's Cathedral on Tuesday, Oct. 21st, at 7.30 P.M., the sermon will be preached by the Rev. Canon Arnott, F.R.C.S., rector of Beckenham. Admission will be by ticket, to be obtained from the Provost, Mr. George Cowell, F.R.C.S., 24, Harrington-gardens, London, S.W. A stamped addressed envelope should be enclosed with the application.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Statistics of Cancer.

ACCORDING to Professor Behla, one of the medical members of the Prussian Statistical Office, the number of deaths from cancer has again increased in 1912 as compared with the preceding year, 30,045 deaths from cancer having been reported in 1912 against 29,473 in 1911. The increase in cancer mortality has been continuous during recent years, whilst the death-rate from tuberculosis is constantly decreasing. New methods of treatment have thus failed to produce a decrease in the mortality, and it will be of interest to see from future statistics whether this will continue to be the case after the introduction of modern radiotherapy. Professor Behla draws attention to the remarkable fact that the cancer mortality of the year is always greatest in the autumn.

A Municipal Subvention to the Berlin Medical Society.

The Berlin Medical Society has hitherto not been in possession of premises of its own, the Langenbeck House, where the meetings take place and where also the offices and library are accommodated, being the property of the German Surgical Association, and only rented from them. The Langenbeck House has long since proved much too small for the increasing number of members of the Medical Society, and the society has therefore decided to build a new house of its own, to be called the "Virchow House." The purchase of a site in the medical quarter of Berlin, however, has exhausted the funds at the disposition of the society, so that but little money is left for the cost of building. The committee of the society some time ago petitioned the municipal authorities of Berlin to grant to the society a subvention on account of the valuable work done by the society for public health. The town council has, indeed, after a thorough discussion, decided to grant the request and to give to the society an annual sum of £500 for five years, beginning with Oct. 1st, 1914, and further, to lend the sum of £50,000 on mortgage on the premises. In this way the Medical Society is at once relieved from its financial difficulties and will be able to begin building the new premises. This generous decision of the Berlin municipal authorities is highly appreciated in medical quarters. The plan of co-operating with the German Surgical Association in constructing a large house to be used in common has been abandoned, the negotiations for that purpose not having led to any practical result, although the Langenbeck House also is much too small for the Surgical Association, so that their last two meetings had to be held outside the Langenbeck House in a large concert hall.

The Noise in Modern Hotels.

Professor Oppenheim, the well-known specialist for nervous diseases, has been drawing public attention to certain drawbacks connected with [illegible] great progress made in [illegible] He refers to the noise [illegible] water arrangements for a great number of bathrooms and lavatories. Matters are made worse by the thinness of the partitions between the hotel rooms, which allow every noise in the neighbouring rooms to be heard, notwithstanding double-doors and double-windows. The situation of the leading hotels in busy thoroughfares does not favour quietness, and in the back rooms the noise is sometimes as annoying as it is in front. But the greatest nuisance of all is the excessive supply of music. Formerly musical performances took place only in the evening and in certain hotels; nowadays every hotel, from the fashionable ones in the great cities to the more unpretending inns in remote mountain places, has its house band, which performs at least twice a day. Music, as Professor Oppenheim says, is truly a great delight, but only under certain conditions, and the individual hotel resident should have the choice whether he wishes to hear music or not, whilst under present conditions he has no means of escaping it, even should he prefer to seek quietude in a retired corner. The hotel [illegible] ggests, should discuss the [illegible] gress; he is certain that [illegible] of the guests, especially [illegible] if they would alter the [illegible]

Oct. 6th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

An International Congress against Alcohol at Milan.

THIS is a season of congresses, of which perhaps the most important has been the International Congress against Alcohol, inaugurated at Milan on the 22nd of last month. The Onorevole Falcioni, Under Secretary of State, represented the Government and welcomed the delegates, who included representatives of 28 different countries. The committee had kept in view the most important point of the alcohol question as it affects this country, and instead of inviting the Congress to philosophise over the vice of inebriety and enthuse over the virtues of abstinence they had placed before it the economic problem, vital to Italy, of the utilisation of the fruit of the vine apart from the production of alcohol. It appears that the work of Italians has gone far towards the solution of this problem in the preparation of a grape juice concentrated by a cold process. This gives an economical, pleasant, and nutritious drink containing phosphorus in combination as lecithin and nuclein in proportions much higher than in wine. Experiments have shown the ease with which it is assimilated and proved its nutritive value for children and delicate subjects.

The Congress of Sciences at Siena

Another interesting congress has been that of the sciences held at Siena last week. Medical sciences were well represented. Professor Sclavo's address on the Rights of Hygiene was an outspoken criticism on the state of affairs obtaining here. He told an amusing story of a doctor who, having obtained funds for the acquisition of a site for a home for children with a tendency to tuberculosis in a fine position overlooking the sea, received a summons to the prefect, who advised him to drop the project as he would never allow him to open an establishment of such a kind, *so full of danger to the fish in the sea below!* Professor Sclavo found both medical men and engineers deficient in education in matters of public health, and deplored the great waste of public money which this ignorance has caused. Professor Centanni reported some original observations on the behaviour and development of tissues in artificial conditions. Making use of a modification of Carrel's technique, he had studied the means to stimulate the growth of tissues and to produce pathological formations. He expressed the conviction that this line of research promised important practical results. For the entertainment of the congress the municipal authorities arranged a third performance of the "Palio," the mediæval horse races, of which the usual two performances take place in July and August in the Piazza del Campo.

Oct. 4th

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Canadian Public Health Association.

AT the third annual congress of the Canadian Public Health Association, held in Regina, Saskatchewan, on Sept. 18th, 19th, and 20th, under the presidency of Dr. John W. S. McCullough, chief health officer of Ontario, a resolution was adopted affirming that advanced cases of tuberculosis could be treated in general hospitals without the danger of infection to other patients, providing proper arrangements were made, and copies were ordered to be sent to the Provincial Governments, asking that provision be made in all hospitals receiving Government aid. A resolution was adopted also asking the Dominion Government to take into consideration the danger to the public health through the yearly increasing number of immigrants from European countries into Canada. The following officers were elected for 1914: President, Dr. M. M. Seymour, Regina. Vice-presidents, Dr. J. D. Page, Quebec; Dr. T. Aird Murray, Toronto; and Dr. Duncan Anderson, Toronto. General secretary, Dr. Lorne Drum, Ottawa. Treasurer, Dr. G. D. Porter, Toronto. Fort William and Port Arthur will be the place of meeting in 1914

Sanitary Services Convention, Quebec.

The fifth annual conference of the Sanitary Services of the Province of Quebec was held in Montreal during the week ending Sept. 20th, and presided over in the absence of the chairman of the Quebec Board of Health, Dr. E. P. Lachapelle, by its secretary, Dr. E. Pelletier. Dr. J. E. Laberge, of Montreal, insisted that instruction in hygiene should be made compulsory in all the schools of the province. He outlined 12 lessons, which could be subdivided into four parts, so that ample time could be devoted to all phases of the subject. At an evening session, Dr. T. A. Starkey, Professor of Hygiene in McGill University, gave a public lecture on the Responsibility of Municipalities in carrying out Sanitary Measures, which was followed by another lecture by Dr. C. N. Valin, Professor of Hygiene in Laval University, on the Advantages of Public Hygiene. Dr. A. Simard, of Quebec City, dealing with infant mortality, said that at least 2000 babes could be saved from death in that province with better care, proper sanitation, and hygiene. The conference also advocated the proper medical inspection and supervision of school children in all the elementary schools of the province.

Public Health Legislation in the Province of Quebec.

The Provincial Board of Health of the Province of Quebec was first organised in 1887, Dr. Lachapelle, of Montreal, being appointed president, and Dr. Pelletier, of Quebec City, secretary. After 26 years these two officers still continue in control of health matters in that province and to them is due the credit of the excellent Public Health Acts now in force. The board consists of nine members, four of whom must be physicians. In 1910 it was decided to divide the province into ten health districts, and six of these districts have since been organised with medical men in charge located in each district. All medical inspectors are required to hold a diploma of public health and to pass an examination prescribed by the Board of Health. Special attention is given to small-pox—always a menace throughout that province—and the Vaccination Act provides for vaccination in the first year after birth, and revaccination both in the eleventh and twenty-first years. During the present year in Montreal there have been 222 cases of small-pox—March heading the list with 51—and 1204 cases of tuberculosis—967 pulmonary and 237 of other forms.

Insanity in Quebec and Ontario.

In the Province of Quebec the care of the insane is under somewhat peculiar conditions, being entrusted to corporate bodies, religious or otherwise, by the Government, which makes a per capita grant for the public patients, who are allotted to the different institutions as follows: St. Jean de Dieu, 2000; Quebec Hospital for the Insane, 1257; Verdun Protestant Hospital, 515; St. Ferdinand Hospital, 145; St. Anne Hospital, 123—a total of 4040 public patients. Only Verdun makes returns of its private patients, and these number practically the same as the public patients. If the ratio in others is the same the officially insane in that province would approximate 8000. The amount paid by the Government for the public patients is $460,738.36. For the Roman Catholic institutions this is $112 per capita, while for the Verdun patients it is $142. Quebec has a total population of 2,000,000.

In Ontario for the last official year the total number of insane in the provincial institutions was 5726, 2769 being males and the rest females, a net increase of 86 for the year. The admissions for the year totalled 1247, an increase of 103; the deaths, 460, an increase of 45; and the discharges, 570, an increase of 28. The number of deportations was 258, an increase of 32, 66 being insane, 49 criminal, and 48 likely to become a charge upon the province. Manual and health work has been found most beneficial in lessening mental degeneracy, and a high standard of efficiency has been reached in the various institutions. The growth of insanity in the province is seen in the following statistics: 1882 to 1886, total 2775; in 1891, 3201; 1895, 3865; 1901, 4604; 1906, 4933; 1912, 5517. Of the 1247 admitted in the past year 890 inherited a predisposition. Of the admissions of the year 653 were men and 594 women, of whom 543 were single, 587 married, 116 widowed, and 1 divorced.

Dominion Medical Council Matters.

At the first examinations of the Dominion Medical Council held in Montreal on Sept. 7th some 66 candidates presented themselves. At the recent annual meeting the Ontario Medical Council instructed its registrar to accept Dominion registration as full qualification for licence in Ontario, subject only to the production of the necessary credentials and payment of the usual fee. Four provinces have now established reciprocity with Great Britain—namely, Quebec, Prince Edward Island, Nova Scotia, and New Brunswick. Only one province, British Columbia, has failed to comply with all the requirements of the Dominion Act. It retains the right to examine candidates for subsequent licence in that province in the final branches.

Sept. 23rd.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

Immigration Regulations.

A SERIES of regulations has recently been promulgated under the Union Immigration Act passed last session. Under these regulations the port health officer or other duly appointed medical practitioner is to be present at the examination of passengers by the immigration officer and to indicate any passenger whom he deems it necessary to examine medically before he is passed as an immigrant. Leprosy, trachoma, favus, framboesia, syphilis, and scabies are declared loathsome diseases, bringing those suffering therefrom under the category of prohibited immigrants. The regulations provide that persons suffering from tuberculosis may be allowed to land under a permit from the immigration officer, but these permits are only to be issued at the ports of Cape Town and Durban, and on the following conditions. The place of residence and the mode of transport thereto to be subject to the approval of the immigration officer, the immigrant to report himself to the local health authority at his place of residence, and to present himself for examination by the district surgeon or other approved medical practitioner whenever required; sleeping accommodation never to be shared with any other person, and regulations by the local health authority for preventing infection to others to be observed. It is clearly the policy of the Government to discourage the entry into the Union of tuberculous persons, although very little is being done to prevent the spread of the disease in the subcontinent itself. But with no properly organised health department the regulations are likely to be applied improperly or to become a dead letter.

Reorganisation of Hospital Work in the Cape Peninsula.

The Cape Hospital Board has appointed a committee of inquiry to advise as to the requirements of the Cape Peninsula and the reorganisation of work under the new *régime*. The committee having sought the advice of the Cape of Good Hope (Western) Branch of the British Medical Association, the Association approved the formation of a clinical medical school, but as that would require some years of preparation it recommended that the board keep steadily in view the provision of a large hospital for the university medical faculty. It recommended the early establishment of a pathological department under the control of a university medical faculty, and considered it desirable that the New Somerset Hospital should be entirely reserved for free patients with a view to its development into a teaching hospital, though the site of that hospital is hardly ideal, not being in the neighbourhood of the medical school. It recommended that the honorary staff should be specialised and the principle gradually introduced of requiring the staff to restrict themselves in private practice to their specialty. Also that, when a complete medical course was established, beds should be reserved for the university professors, and that in the meantime all holders of appointments as honorary visiting medical officers be selected by a mixed committee representing the lay board, the honorary staff, and the outside profession. It further recommended that free out-patients be treated at both the New Somerset Hospital and the Free Dispensary by an honorary out-patient staff appointed for the purpose; that the four suburban hospitals should, as at present, be conducted on the lines of cottage hospitals; that maternity blocks should be attached to the teaching hospital; and that an entirely new hospital on the small ward system should be built in as central a position as possible for contributing patients. Finally, it stated emphatically the opinion that it was unnecessary for the board to make provision for fully paying patients.

South African District Surgeons' Association.

At a meeting of the district surgeons representing all provinces of the Union recently held at East London, on the suggestion of the Transvaal District Surgeons' Association it was unanimously agreed to form a South African District Surgeons' Association, with a local committee in each province. The following provisional committee was appointed: Dr. Grinsell (Stutterheim) and Dr. E. G. Dru Drury (Grahamstown), representing the Cape Province; Dr. D. Campbell Watt (Pietermaritzburg) and Dr. J. Dodd (Ixopo), representing Natal; Dr. Moorhead (Rustenburg) and Dr. Nixon (Heidelberg) representing the Transvaal; and Dr. D. M. Tomory (Bloemfontein) and Dr. P. D. Strachan (Philippolis), representing the Orange Free State. Dr. Campbell Watt was unanimously elected the first president and Dr. Moorhead vice-president, and Mr. W. A. J. Cameron, of Johannesburg, a temporary secretary. The rectification of the grievances of district surgeons under the existing regulations, and the contemplated promulgating of new regulations curtailing many of the existing fees, were the determining causes of the new association.

Railway Sick Fund Regulations.

The long awaited new [illegible] of the Railway Sick Fund [illegible] The control of the fund [illegible] board of 16 members, half to be nominated by the administration and half elected by contributors. No provision is made for medical representation, although it is possible that the administration may intend to nominate one or two medical men as their representatives. Subordinate to the board are to be four district boards with offices respectively at Cape Town, Bloemfontein, Johannesburg, and Durban. On these also there is no specific provision for medical representation. The objections to the regulations are very numerous. The new regulations are understood to have been compiled without reference to contributors to the fund, to the medical men concerned, or to the medical profession. It is of the utmost importance to the railway employees that their medical service should be an efficient one. The medical officer has hard work to do his duty both to the railway administration and to the patient. It is utterly impracticable for laymen unassisted by professional advice to draw up satisfactory regulations; yet this is what the railway administration has endeavoured to do. The new regulations are perhaps objected to more strongly in Natal than elsewhere. At a meeting of the [illegible]

[illegible] stated that he had been offered the appointment as railway medical officer to the Greyville district. There were 2380 (estimated) railway workers in this district, including wives and children of the actual employees. He was offered £500 per annum. A few extras were allowed, the chief being £2 2*s.* for midwifery cases and £1 1*s.* for anæsthetics and for consultations; also a travelling allowance of 8*d.* per hour [illegible] duty. He had worked out the [illegible] estimate of the incidence of sickness would be 3 per cent., giving about 60 attendances per diem. This was more than one man could manage, and if an assistant and two motor-cars were kept it would all have to come out of the £500 per annum. Dr. Howden further pointed out that the majority of these people had previously been private patients, so that practices would be broken up and for ridiculously low rates of payment. He might well also have added that in addition there would be interminable correspondence connected with such a post. From the general discussion it was evidently the consensus of opinion that the terms were totally inadequate and should be strenuously resisted. Eventually resolutions were agreed to calling for conference with other branches as to their attitude, standing by the 12*s.* minimum rate for adult workers and adopting the principle of free choice of doctor, and informing the Central Board that members of the branch would not be allowed to negotiate individually for the posts of railway medical officer until terms were accepted by the branch and inviting a conference between the board and the branch. Dr. Howden, Mr. S. Copley, Mr. B. A. Nicol, Dr. A. McKenzie, and Dr. Duncan McKenzie were appointed a committee to deal with the matter and, if necessary, to meet a delegation from the sick fund and to report to the branch. The firm stand taken up by the Durban practitioners is very satisfactory.

Sept. 5th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Medical Research in India.

THE first number of the new Indian *Journal of Medical Research*, edited by the Director-General of the Indian Medical Service and the Sanitary Commissioner with the Government of India, is now under issue as a quarterly. It is published for the Indian Research Fund Association and takes the place of the Scientific Memoirs. Sir Harcourt Butler in a foreword says: "The time has come for the fund to have its own official organ, and the *Journal* should be a worthy record of what is being done in India for the advance of sanitary science in the widest sense of the term." Its pages will be open to all, official and non-official alike, for papers on subjects of research connected with medical and sanitary science. It is added that research work is rapidly developing in India, and Sir Harcourt Butler makes an earnest appeal to all who are interested in it to support the journal and enable it to hold a high place among the scientific journals of the world. The first number contains 16 articles dealing, amongst other things, with cholera, kala-azar, dysentery, latent malaria, &c. Photographic reproductions of certain biting insects are beautifully done. The journal, which is published by Messrs. Thacker, Spink, and Co., of Calcutta, is admirably printed on thick paper. Its price is six rupees per annum.

Hospital Accommodation in Cochin.

The Anglo-Indian community of Cochin, numbering over 3000, are making arrangements to memorialise the Madras Goverment, through the local municipal chairman, to reconsider its decision to omit the proposed European and Eurasian ward from the estimate of the new Municipal Hospital submitted by the local civil surgeon.

Infant Mortality in Bengal.

In the annual report of the Sanitary Commissioner for 1912, just published, it is stated that nearly 340,000 children under one year died in Bengal, representing a loss of 21 per cent. of the births. The figures for 1911 were just under 310,000. Calcutta has hitherto returned the highest infant death-rate—26 per cent. of births—but Jalpaiguri, with 28·69 per cent., and Dinajpur, with 26·26, are now worse. Cholera and fever have been prevalent, but infant mortality is not largely due to these diseases, but to ignorance of hygiene and want of skilled medical treatment.

Child Life in Calcutta.

A correspondent of a Calcutta paper draws attention to the fact that little children are employed in the city to descend the drains and clean them. The corporation should take the matter up and substitute more humane and up-to-date methods of cleaning the drains of the city.

The Drainage of Imperial Delhi.

The scheme for the training of the Jumna at Delhi is to be prepared in due course. Th[illegible] likely to be great, and with [illegible] in river training in India t[illegible] two or three years. When once the Jumna has been "trained" it can be kept to channels that will leave the area now liable to flooding high and dry all the year round.

Ambulance Work in India.

General Haji Hafiz Obeidullah Khan, C.S.I., Imperial Service Lancers, has signified his intention of presenting an ambulance challenge shield to the Indian Council of the St. John Ambulance Association for competition among the units of the St. John Ambulance Brigade in India and Burma.

Tube Wells in India.

Experiments with tube wells in India are still being carried out, and experience alone can show where they can be used with full advantage, but of their utility in some tracts there can be no question. In Vol. II. of the proceedings of the All-India Sanitary Conference at Madras a short paper by Mr. T. A. Miller Brownlie, municipal engineer of Amritsar, gives some particulars of borings and workings. His concluding paragraph is worth particular attention, for he says: "The question of the relative cost of tube wells is of no great importance when one considers that from an ordinary masonry well 12 feet in diameter, as built for modern water-supplies, the average yield is roughly 3000 gallons per hour and the cost is over £200; whereas at a less cost a tube well can be sunk which will yield 45,000 gallons per hour, or 15 times the supply of an ordinary well and under the same head." After such a statement we can fully agree with him that a considerable amount of good can be done by the installation of tube well water supplies for towns and villages of India which are in urgent need of pure water. It is to be hoped that experiments will be steadily continued and that the results gained will be made public.

Town Planning in India.

The Government of Madras has now taken steps to frame a set of rules, and has issued them for the guidance of municipal councils, to ensure that schemes for the extension of sites and the provision of house accommodation are carried out with regard to sanitary principles. Certain draft rules were first circulated amongst the various municipalities in the Presidency for their criticism. A large majority of the municipalities approved of the rules in their entirety, while several of them, like Coimbatore, Ellore, and Tanjore, made some excellent suggestions based on their own experience. The rules come into force on Oct. 1st in all except hill municipalities. All such undertakings have to receive the approval of the district medical and sanitary officer or the Sanitary Commissioner, with special reference to the suitability of the soil for building construction, facilities for drainage, water-supply, and other matters. Streets are required to be marked out on the sites, and as far as possible to run in straight lines crossing one another at right angles, and the main streets, exclusive of lateral drains, are to be not less than 40 feet, the secondary streets not less than 30 feet in width. All streets are to be metalled throughout their entire width, not merely in the centre of the roadway, and any departure from this rule is to be made only with the sanction of the Government. Conservancy lanes 10 feet in width, exclusive of lateral drains, must be formed along the backs of houses, and streets must be provided on both sides with open and impervious unshaped drains to carry off storm-water. The formation of streets and drains, it is wisely laid down, should form part of the scheme for laying out the sites, and should ordinarily be put in hand simultaneously with the execution of the scheme. In large streets the municipality will maintain suitable avenue trees on both sides of the street.

Efficient Medical Women.

The results of the examinations of the Agra Medical College seem to show that the women students are more efficient and more diligent than the men. Major E. J. O'Meara, I.M.S., in his annual report, states that 65 male students appeared at the final medical examination in April, 1913, and only 29 passed in all subjects. Out of 20 women students who presented themselves 13 passed in all subjects Of the male failures 27 were remanded for one year and 9 were recommended for dismissal, as in the opinion of the Medical Board they are never likely to pass, and their retention is a waste of money to the Government.

Pasteur Institute for Burma.

In sanctioning the scheme for a Pasteur Institute in Burma the Secretary of State has been pleased to sanction the proposal put forward by the local Government that the balance of the grant of two lakhs by the Government of India for the purpose of erecting a bacteriological institute at Maymyo, part of which has already been devoted to the construction of a combined chemical and bacteriological laboratory at Rangoon, shall be applied to the provision of a small bacteriological and serological laboratory in connexion with the Pasteur Institute at Rangoon and the construction of quarters for the director.

Sept. 20th.

Obituary.

WILLIAM CARNEGIE BROWN, M.D., C.M. ABERD., M.R.C.P. LOND.,

PAST SECRETARY OF THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

THE death of Dr. W. Carnegie Brown has removed one who had done much to draw together the groups of individuals interested in the study of tropical medicine, owing to the important part which he took in the formation and development of the Society of Tropical Medicine and Hygiene, and at his funeral on Oct. 2nd the society was represented by Sir Ronald Ross, past president of the society; Dr. F. M. Sandwith, vice-president; Dr. T. P. Beddoes, and Dr. C. F. Harford, one of the present honorary secretaries. Dr. Sandwith also represented the London School of Tropical Medicine, and a wreath was sent by Sir Patrick Manson, the first president of the society.

William Carnegie Brown received his medical education mainly at Aberdeen, though he also studied at St. Thomas's Hospital. He took his M.B., C.M. Aberdeen in 1880, and after that saw something of life abroad by serving as medical officer of the White Star and P. and O. lines. In 1884 he took his M.D. degree, and from 1885 onwards he was medical practitioner in Penang, in the Straits Settlements. Here he gained good insight into tropical diseases, and, being a careful observer, made a study of some of the principal diseases that are met with in that part of the world. His chief contributions to the literature of tropical medicine, published since his return home, have been two books, one on "Sprue and its Treatment," which was published in 1908, and the other on "Amœbic Dysentery, its Complications and Treatment," published in 1910. Both of these books give a very good summary of the knowledge available concerning these two diseases at the time of writing, and it will be admitted that both these subjects are worthy of a good deal more consideration than has been generally accorded to them.

In the year 1904 he returned to England and took rooms in Harley-street, and at once associated himself with workers in tropical medicine. In 1906 he became a Member of the Royal College of Physicians of London, and in 1907, when a movement was started to found a new Society for the Study of Tropical Diseases, Dr. Carnegie Brown was chosen with Dr. Sandwith to be one of the honorary secretaries. By his tact and hard work he contributed largely to the success of the new society and gained the confidence of all his colleagues, and he continued to hold the post of secretary of the society until his health failed in the summer of 1912, when he felt obliged to resign his office. As a matter of fact, for some time previously he had been failing in health, but he stuck to his post with the greatest zeal, even though he did so at great cost to himself. The fact that there are at the present time 608 Fellows of the new society, although it has only been in existence six years, is the best monument to the indefatigable labours of Dr. Carnegie Brown. Many difficult questions came up for consideration by the society during his term of office, and nothing exercised him more keenly than the negotiations which took place between the Royal Society of Medicine and the Society of Tropical Medicine and Hygiene on the possibility of amalgamation. Dr. Carnegie Brown felt most keenly the seriousness of the problem, and he was of opinion that the cause of tropical medicine, represented as it was by medical men scattered throughout the world, needed a special society to represent its interests. He was not identified with any of the teaching schools, and therefore he could act in a specially disinterested manner, and this fact lent great value to his services. His good judgment in arranging the programme of the session and in securing papers from those best qualified to deal with particular subjects was most noticeable, and he has left behind him a record of patient and persevering work which cannot fail to act as a stimulus to his old colleagues and to all who remember him.

Dr. Carnegie Brown leaves a widow, three sons, and three daughters.

DAVID MOUNT HUTTON, B.Sc., M.D., C.M. EDIN.

BORN in Liverpool of Scottish parents 43 years ago, David Mount Hutton received his primary education at preparatory schools in St. Andrews and Edinburgh, and with a sound equipment in literature, classical, English, and German began professional study at the Edinburgh University, first in science, in which he graduated B.Sc. in 1892, and thereafter in medicine proper, taking the M.B. and C.M. degrees in 1895, and finally the "summi in medicina honores" with honours in 1899.

So qualified, he entered immediately on general practice at Southport-cum-Birkdale and rapidly acquired the confidence of a large *clientèle*, thanks to the very thorough clinical training he had undergone as resident physician in the Edinburgh Infirmary, and also as physician in the Royal Children's Hospital in the same school. In quick succession he became medical referee to the Scottish Provident among other insurance companies, Fellow of the Royal Society of Medicine, and an active member of the North of England Obstetrical and Gynæcological Association, as also of the Society for the Study of Children's Diseases. Latterly, amid much strenuous professional work, he interested himself in the movement, now progressing under Government auspices, for the Care of the Feeble-minded, aiding it effectively on the platform and in the press, while acting as President of the Southport Branch of the Lancashire and Cheshire Society organised in the same philanthropic interest. He even found time for enriching the literature of the profession by articles such as that on Myiasis, published in the "Encyclopædia of Medicine"; on a Case of Syphilis Transmitted to the Third Generation, printed in the Transactions of the Society for the Study of Children's Diseases; on [illegible] paper published in the "Special Schools Quarterly."

Fifteen years of such work, rarely and never adequately relieved by respite or holiday, began, however, to tell on a constitution in the main robust, but not proof against the handicap of an anxious temperament and a sense of duty that never spared itself. Premature breakdown became more than ominous, insomuch that preparations were on foot for a six months' *villeggiatura* in Italy. But—*Dis aliter visum*. The project indeed had barely been initiated under a medical friend's roof near London, when suddenly, if not quite unexpectedly, he succumbed to heart failure on Sept. 21st. "And so," writes a valued correspondent of THE LANCET who knew Dr. Hutton intimately, "there 'went down while it was yet day' the 'sun' of a guileless and generous nature which, devoted—mind and soul—to the medical calling, 'knew its art but not its trade,' finding its true honorarium in the gratitude it earned not only by the skill acquired in the schools but by the *sagacité de cœur*, which is the precious, the distinctive possession of the born physician."

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. A. van der Loeff, formerly inspector of the medical service in West North Brabant and Zeeland, aged 71.—Dr. P. Alt, privy sanitary councillor of Charlottenburg.—Dr. F. Deus, sanitary councillor of Berlin.—Dr. A. Pitschpatsch, sanitary councillor of Sagan.—Dr. A. Thorwith, sanitary councillor of Berlin.—Dr. Julius Preuss, of Berlin, whose contributions to the press on the subject of Jewish medicine in history are of great and universal interest. His latest work, which includes most of his previous researches, was "Biblisch-talmudische Medizin." His age was 52, and he held the rank of sanitary councillor.—Dr. Theodore S. E. Schaepkens van Riempst, lecturer on genito-urinary diseases in the New York Polyclinic Medical School and Hospital.—Dr. John P. Pardue, formerly professor of materia medica and hygiene in the St Louis College of Physicians and Surgeons.—Professor Robert Kutner, director of the Kaiserin Friedrich Haus, Berlin, and general secretary of the International Committee for Post graduate Medical Education.

Correspondence.

"Audi alteram partem."

THE PATHOLOGY OF THE CONDITION KNOWN AS PARASYPHILIS.

To the Editor of THE LANCET.

SIR,—The extremely interesting and highly scientific paper by Dr. J. McIntosh and Dr. P. Fildes in THE LANCET of Sept. 27th tempts me to write a brief note on the subject as it presents itself to one who has had a certain amount of clinical experience and training, but very little experience of, or training in, modern precise methods of microscopical and biochemical research.

I would first mention three small items of great interest to myself, and of what I *consider great clinical importance*. The first one is a statement made by the late Sir Jonathan Hutchinson when teaching a class of students of whom I was one. He said that he had watched a patient for many years whose sole indication of tabes dorsalis when first seen was the absence of knee-jerks. He had, in the course of time, developed the other classical features and had ultimately died from progressive nerve trouble. I had then, and have not now, any reason to doubt his statement.

The second item is a fragment of a conversation I held some seven or eight years ago with my late colleague, Harold Barnard, who said to me, "Smith, what is your rule and teaching about administering mercury to patients suffering from disease and whom you suspect to have had syphilis at some previous period upon which the present symptoms may possibly depend?" I replied very promptly, "I teach and practise that in all such cases mercury should be very freely and promptly administered, and that iodides might also be given, but mercury never under any circumstances omitted." "How do you give mercury?" he asked, and my reply was, "Invariably by inunction of the ung. hydrarg. of the B.P." I have seen no reason to depart from my teaching or to alter my rule.

The third item is a case from my private practice. In November, 1895, I was asked by Dr. J. J. Coulton to see a patient then aged 33, who had acquired syphilis "in the *year of the Paris Exhibition." (So my note runs. I have no* reference by me to fix what this year was.) Subsequently, he had suffered from gumma of the testicle, but "all seems to have cleared up," and he was well till three days previous to my first consultation, when he was suddenly seized with aphasia and amnesia, could not write at all properly, began words and could not finish them, used wrong words, &c.; these symptoms had improved under K.I., with which his medical man had treated him. I have a few more notes on his nervous system, but they are not very material. I heard in March, 1896, that he had got quite well after three months of *mercurial treatment* combined with potass iod. In October, 1897—i.e., nearly two years later—I saw him again with some acute illness which at [illegible] fever, but as he had some [illegible] *speech, mind far from clear,* [illegible] accounted for by typhoid fever, I ordered ung. hydrarg. to be rubbed in. I saw him again a fortnight later, and my note runs: "No doubt now about G.P.I. He has been made [illegible] "His lips and speech are very [illegible] and his knee-jerks are greatly [illegible] react steadily to L. and A." By [illegible] and in mind. K.J. ++. Pupils react fairly, but not absolutely as they ought to do. In 1898 he came to me to ask advice as to the frequency with which he ought to indulge in sexual connexion; desire and power both in excess. In 1899 my note runs: "Feels very well. Hands quite steady; mentally clear; good head for business. K.J. natural and equal; pupils react readily to L.; tongue quite steady." In 1901: "A bit below par. K.J. slightly glib. Pupils react readily to L. and A." In 1906: "Health excellent. K.J. both fairly free." I have not seen the patient since then, so that he may have died in the interval, and that, too, from G.P.I.

I leave these items for a moment to mention the views that I adopted in my student days and taught when I reached a position of responsibility to students and still teach—viz., that if parasyphilitic had any meaning at all it was intended to convey the idea that active syphilisation had ceased, but before ceasing had produced such disturbing effects upon lymph- and blood-vessels as to diminish the food-supply to, and removal of waste products from, the nerve fibres or cells to such an extent that the cells, and therefore the fibrils dependent on the cells, slowly but surely, and usually progressively, perished. All this seemed to me a legitimate deduction from what was then known of the power of syphilis to produce what was termed syphilitic endarteritis—a process that resulted in diminishing the calibre of the vessel below its optimum. I had then no suspicion that the microbe of syphilis could still be alive, and could be continuing to produce toxins having a primary deleterious action upon nerve cells.

It would make my comments too long to pass in review, as Dr. McIntosh and Dr. Fildes have so ably done, the various stages in the controversy regarding parasyphilis, but I would like to contradict flatly, by my own experience, the statement that "the result of treatment is *nil.*" Your authors dispute the statement, and my experience confirms their view, but there must, of course, be added the proviso that treatment by mercury must be undertaken early, and often, indeed, while the evidence of syphilis is still doubtful. (I do not wish here to enter upon the value and importance of the Wassermann reaction, because I hold the view that mercury is useful in other conditions than syphilis, and therefore treatment can do no harm and may be of immense good even if syphilis be not a factor in the trouble.)

I would like to ask Dr. McIntosh and Dr. Fildes for a critical consideration of my case mentioned above; to call it a "particularly toxic secondary encephalitis," and to refuse it the name of "early general paralysis" seems to be somewhat of an anomaly.

I would like, Sir, in conclusion, to ask them also whether I am correct in saying that the most elaborate investigations of modern research do not contradict in any essential particular my view of what one ought to teach students. By essential I mean affecting the chances of the patient's cure. Or would they urge me to wait for the results of a Wassermann before resorting to mercury? (I do not wish to enter into any controversy as to the relative merits of mercury and neosalvarsan for the cases I am considering.) It seems to me that modern pathology rather supplies a firm basis of ascertained facts for my practice, a position of affairs which naturally gives me great satisfaction; and I shall conclude that it is never, clinically speaking, too late to apply antisyphilitic treatment.

I am, Sir, yours faithfully,
F. J. SMITH, M.D.Oxon.,
Physician to the London Hospital.
Harley-street, W., Oct. 2nd, 1913.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Sept. 27th you printed a contribution from us entitled "The Pathology of the Condition known as Parasyphilis." In this paper we put forward the view that dementia paralytica was merely the expression of tertiary syphilis of the brain. The condition differed from the gummatous processes confined more or less to the lymph vascular tissues, in involving chiefly or entirely the nervous substance proper. The wide extent of the lesion resulting from a minimal number of spirochætæ was due to the fact that the patient was in a "tertiary" condition—in other words, because his tissues were hyperimmune (hyperallergic) to the virus. Acute encephalitis was a lesion pathologically similar, but since its onset was relatively early after infection the tissues had not become hyperimmune, and thus a marked spirochætosis produced relatively little reaction and destruction.

We wish now to mention that Professor Noguchi, in the current number of *La Presse Médicale* (Oct. 4th), demonstrates that normal rabbits are insusceptible to intracerebral inoculations of spirochæta pallida. If, however, the animal is sensitised by repeated intravenous injections of spirochæta pallida, an intracerebral inoculation will then produce the lesion of dementia paralytica. Noguchi's investigations appear to supply the experimental evidence which is at present lacking in our purely inferential study.

We are, Sir, yours faithfully,
JAMES MCINTOSH.
PAUL FILDES.
London Hospital, Oct. 6th, 1913.

THE NATIONAL INSURANCE ACT: THE APPOINTMENT OF MEDICAL REFEREES.

To the Editor of THE LANCET.

SIR,—Medical men of all ranks are frequently asked by insurance offices or employers to examine claimants who allege that they are suffering from either accident or disease, and it is one of the settled ethical laws which govern the profession that, knowingly, no medical man shall examine the patient of another medical man except in consultation or after having first obtained his consent.

House surgeons and general practitioners continually meet medical examiners acting for insurance offices, but they decline to do so unless they are paid the usual consultation fee of £1 1*s.* The most recently qualified house surgeon will decline to attend a consultation or to write a report under the fee of £1 1*s.* General practitioners all over the country receive the same fee, if not more, for their loss of time, care, and responsibility, when called upon to give at a consultation a detailed history of a case. The Home Secretary, in fixing the fees of medical referees under the Workmen's Compensation Act, fixed a fee of £2 2*s.* as the fee for a medical examination and report to a county court judge, and no one has ever hinted that this sum is excessive.

Bearing in mind the above facts, the question arises as to what should be the attitude of the profession in regard to the appointments of medical referees by Local Insurance Committees, either at small salaries or at fees hitherto unheard of for the class of work required and without any published regulations safeguarding the ethics of the profession.

The London Insurance Committee have appointed six medical referees for the county of London, and these practitioners have presumably agreed to make visits, hold consultations with panel doctors, and write reports for the information of the Insurance Committee at an inclusive fee of 7*s.* 6*d.* per case, on which reports the standing, knowledge, and experience of the panel doctor are to be adjudicated on by the committee, as is also the character of the insured persons whose *bona fides* is in question. These latter persons will be at the mercy of an Insurance Committee solely dependent for its information on the report of a medical referee, and they may be branded as malingerers or exaggerators by the committee in a manner which may affect their whole future lives.

Six medical practitioners have accepted this enormous responsibility at a remuneration of 7*s.* 6*d.* for each consultation, examination, and full report, and it seems most improbable that any of these gentlemen, who have accepted these appointments, have realised their onerous and responsible nature or the time that must be given to each report if justice is to be done to the parties interested, or that they have satisfied themselves that regulations have been made for the obtaining in each case from the panel doctor in charge a full and exhaustive history at a consultation to be attended by the panel doctor, on terms satisfactory to himself and the profession.

If such regulations have been made the profession has a right to ask that they may be published in the medical press, so that every medical man on a panel may know exactly how he stands under the regulations, having regard to the ethics of the profession. It may be that medical referees appointed by the Insurance Committee are merely intended to advise in the first instance on a short form, but even if so, and if there is to be a right of appeal either to the Insurance Commissioners or to medical referees appointed by the Commissioners under the powers they hold under the National Insurance Act, yet even then it is most essential that the reports of medical referees to the Local Insurance Committee should be thoroughly well considered and written under a due sense of responsibility. It is generally understood that after the report of the Departmental Committee now sitting the whole question of medical referees, both under the National Insurance Act and the Workmen's Compensation Act, will be carefully considered, and no doubt the following three questions will be kept in view: (1) Whether the decisions of medical referees shall be as now, "final and conclusive," or whether they shall be subject to appeal; (2) whether they shall be whole-time officers or part-time, payable by fees, as at present; and (3) whether a simplification of procedure and a saving of expense could not be effected by the appointment of one body of medical referees to examine and report under both the Workmen's Compensation Act and the National Insurance Act.

It will be generally felt that with a more extended use of medical referees, especially if their decisions are to be "final and conclusive" and if they are to have the confidence of the profession, they should be men of ripe experience, not only in the various kinds of medical practice, but especially in the examination of persons claiming to be incapacitated by either accident or disease, and that they should be men of tact, well used to meeting every kind of medical practitioner in consultation.

I am, Sir, yours faithfully,

South Hampstead, N.W., Oct 4th, 1913. ALBERT BENTHALL.

THE DISCOVERY OF THE RADIUM-MESOTHORIUM CURE OF CHRONIC DEAFNESS OF THE HOPELESS KIND.

To the Editor of THE LANCET.

SIR,—Among the seriously inaccurate statements that have quite recently been made in the lay press in regard to treatment by radium and radio-active agencies that alleged to have emanated from the "Medezenalen Klinik" in which Dr. Hugel, of Berlin, is credited with having discovered the curative effects of radium and mesothorium in chronic deafness, is one that cannot be allowed to pass unchallenged.

Having in October, 1908, observed and realised the curative effect of what I had provisionally termed the "ultra-X rays" in a cast of chronic deafness in a hospital out-patient, who was being treated under my directions for specific gummata of the tongue, obliquely through the open mouth, a second case that had been otologically examined and given up as hopeless, being that of an acquired deaf-mute, was experimentally subjected to a similar course of "ultra-X ray" treatment with very satisfactory results. Both cases were subsequently exhibited at the hospital clinical meetings, and were duly published.

As two such exceptional experiences were not sufficiently conclusive they were subjected to the test of time, and the experiments were repeated in a few similarly hopeless deaf cases in 1909. During this year I also began to treat some with a plaque of radium bromide which I fixed over the mastoid process, and later the radio-active mineral autunite was introduced into the meatus in 1 centigramme metal capsules. In April, 1910, I brought forward two of the originally deaf patients before the Neurological Section of the Royal Society of Medicine, in order to illustrate what I then termed the neurogenetic effect or amœboidism induced by these radiations in nerve terminals. Owing to the large number of cases that were exhibited on that occasion the exhibition of mine was unavoidably deferred.

This experimental research was, however, continued without intermission in spite of the *obstacles* that presented themselves. By August, 1912, having had a large and convincing experience, I submitted the notes of a few of these cases to THE LANCET. The Editor courteously replied in returning my notes, and suggested that my cases had better be exhibited and discussed at one of the medical societies before *publication. Accordingly, in* November, 1912, *the notes* of my eight earliest cases (five of which were originally deaf-mutes) were submitted to the president of the Otological Section of the Royal Society of Medicine. After a few days he expressed his interest in the notes and kindly offered to introduce me to the meeting when the time arrived. Not being an otologist or a member of that section, I was informed that the notes would first have the consideration of the council before a date could be fixed for their discussion. This date was finally fixed for Feb. 21st, 1913, three months later.

At the eleventh hour, however, after the circulation of the notes on the agenda paper of the meeting, certain of the members of that section raised a protest to the president, threatening to resign and form another otological society if my cases were examined or discussed. The president, under these circumstances, reluctantly complied with their demands, and I was requested to cancel by wire my invitations to my patients, but this I could not bring myself to do; the patients were there, also a few medical men concerned in them, but they were not examined or discussed, to the consternation of many. I had the honour, however, of introducing some to the president.

Since this incident in the research that matter has been in the hands of my legal advisers. The experiments were continued, and in June last, at the invitation of the British Oto-laryngological Society, I was able to exhibit four further cases that had been otologically tested both before and after a four months' course of treatment. A report was published in THE LANCET of July 26th last at p. 223, which speaks for itself. For this kind aid I desire to thank the Fellows of this society.

As the identical relationship of the radiations emanating from radium and mesothorium with those from such a Crookes's tube to the discharges from which I have provisionally applied the term "ultra-X" to may be questioned by some practitioners, permit me to describe that association briefly. Radium and mesothorium are elements both of which discharge the long beta and the gamma radiations, the "surpenetrans" of Dominici, but the enclosing metal or filter that is used to cut off the inevitable short radiations that damage the skin structures has, set up within the molecules of the metal, new secondary radiations of short length, the action of which has also to be provided against by more dense covering, other factors need not here be mentioned. A Crookes's tube that becomes useless for superficial therapeutic purposes, after repeated regenerations, the vacuum being now very high, it ceases to discharge the short radiations, though the long beta and gamma radiations continue to be discharged for some time longer with proper management, while using a heavy current and a spark-gap of from 10 to 12 inches. At this stage there is no difference therapeutically between these types of radiations from the sources under consideration. There is no primary necessity for protecting the skin from the action of these ultra-X rays. No metal filter being applied to the skin, *there are no secondary* radiations generated at the skin. An aluminium filter or thick leather disc is used in the path of the rays, at some distance from the skin surface, as a precaution against the occasional softening of the tube by heat at the anode when the cooling device fails. This valuable deep therapeutic feature of a high Crookes tube has not been known to medical science hitherto.

I am anxious to invite discussion which may help us nearer to the truth which we are all seeking.

I am, Sir, yours faithfully,

Gloucester-place, W., Oct. 7th, 1913. H. D. McCULLOCH.

AURICULAR FLUTTER.

To the Editor of THE LANCET.

SIR,—I have read with much interest Dr. J. Hay's narrative of two cases of auricular flutter in your issue of Oct. 4th, but my object in writing you on this occasion is not to offer any comment on the suggestions it contains either as to the nature *or treatment* of that condition. To do so satisfactorily would require more space than you might feel disposed to grant and involve discussion more suited to a longer article. The subject, however, *is one of increasing* interest, and a considerable number of cases of the condition in question have now been observed—30 in all, according to Dr. W. T. Ritchie in his valuable article just published in the *Quarterly Journal of Medicine.* For personal reasons I have some reluctance in troubling you even with the note I am about to write, but statements of fact, however pardonably erroneous, are apt to become stereotyped if left uncorrected.

The first case of non-drug auricular tachycardia recorded was one mentioned by myself in an address given in October, 1908, and published in THE LANCET of Jan. 9th, 1909. It was under my care in the Great Northern Central Hospital in 1903, and was associated with audibility of the extra auricular systoles as well as with their reproducibility by the graphic method.

Dr. Ritchie recorded a high rate of auricular pulsation still earlier[1] in a case of ventricular bradycardia, but the auricular speed in that case followed the administration of atropin, and he refers in his last paper to another case published by the late Dr. G. A. Gibson. These observations were all made prior to those on the interesting and important case recorded by Dr. Hertz and Dr. Goodhart in January, 1909, not in 1908, as stated in Dr. Hay's paper.

Dr. Ritchie mentions that in his atropised case of accelerated auricle no auricular sounds were heard. The audibility of the sounds in my case, which I described to the Æsculapian Society on Dec 13th, 1908, as "jugular embryocardia,"[2] was probably owing to the comparatively slow rate of the massed rhythmic auricular extra systoles, as I consider them to be, in spontaneous cases and to their force. The auriculo-ventricular ratio was as 2 to 1. The higher the auricular rate and the more nearly the pulsations approach the impotence of auricular fibrillation, into which they may apparently at times pass, the less audible in all probability are the auricular sounds likely to be.

I am, Sir, yours faithfully,
ALEXANDER MORISON.
Upper Berkeley-street, W., Oct. 6th, 1913.

LOW-PRICED CLINICAL THERMOMETERS.

To the Editor of THE LANCET.

SIR,—The variations in the readings of the thermometers described by Dr. J. B. Cook in his letter in your issue of Oct. 4th are not necessarily indications of faulty instruments. It is possible to immerse a dozen quite reliable instruments in warm water and obtain as many different readings. In performing the test, among other precautions to be observed one should ascertain that the thermometers have been well "shaken down," that the water is maintained at a constant uniform temperature, and that the instruments do not touch the bottom or sides of the vessel. Of the many dozens of clinical thermometers examined here the percentage of rejections is very small indeed, and the greatest error observed has not exceeded one degree.

The price of 10*s.* 6*d.* per dozen cannot be described as cheap, for accurate 2 min. and ½ min. thermometers can be purchased from makers at far less than 10½*d.* each, while 1 min. thermometers fitted with a lens front and verified at Kew are obtainable at less than 2*s.* each. Dr. Cook does not state whether he ascertained the behaviour of the thermometers when used to take the temperature of the body.

I am, Sir, yours faithfully,
F. A. HOCKING,
Oct. 4th, 1913. Pharmaceutist to the London Hospital.

DISTRIBUTION OF INSURED PERSONS UNDER THE CAPITATION SYSTEM.

To the Editor of THE LANCET.

SIR,—In your report of the last meeting of the London Insurance Committee you mentioned that Mr. E. B. Turner rose to correct my statement as to the Manchester scheme. I have this morning received a letter from Dr. J. H. Taylor, of Salford, and with his permission I venture to ask you to print the following extracts from that letter :—

> I notice that according to the *B.M.J.* supplement, p. 286, Mr. Turner says you were in error about the Manchester scheme. As a matter of fact, it is he who is altogether wrong. We have a panel in Manchester and Salford in every sense of the word and as defined in Regulation 7. All the d [illegible] the Act and [illegible] ant, and the [illegible] the Local Medical Committees do not like the word panel, and so they use the word "list,' but it is a sort of *placebo* which they use with a nod and a wink.
>
> Again, Mr. Turner said that the Manchester Insurance Committee handed over the whole of the Medical Benefit Fund to the Local Medical Committee. If he meant exactly what he said it is another pious delusion like the first, which he may have heard in Manchester. Your own statement was far more correct than his. What really happens is as follows, and I speak with certainty here as a member of the Salford Insurance Committee appointed [illegible] The system in Manchester is a copy of the [illegible] neither case is a single farthing handed over to [illegible] mittee. The whole Medical Benefit Fund, tha [illegible] person (*less* a few contributions to persons receiving treatment through institutions and to persons making their own arrangements, who are very few in number), is divided up into three funds—13/17ths going to the panel fund, 3/17ths to the drug fund, and 1/17th to the drug suspense fund. To the panel fund is then added 6*d.* per person for domiciliary treatment of tuberculosis, which forms the medical treatment pool out of which the doctors are paid per attendance. The important point is that the whole of this pool is paid to the doctors, except that at each payment-on-account a very small sum has been kept in hand by the Insurance Committee, partly because a number of the doctors neglect to send in their accounts in time, and partly because it is impossible to tell beforehand the exact total for the year owing to the variation in the total number of the insured, and thus with [illegible] be kept in hand, but th [illegible] of the year the full t [illegible] was retained in hand on July 31st out of a total pool that will certainly be over £28,000 for the year. Practically, then, you were quite correct in saying that the whole fund available for medical treatment of the whole of the insured is paid to the doctors. Of course you know that the doctors have no lists as you have with your capitation system. We know nothing of the insured until they actually come to us for treatment, and they are allowed to go to any doctor, changing from one doctor to another as they like, Regulation 18 not being enforced. This, by the way, tends to increase the malingering, because if one doctor refuses a certificate the person simply goes about till he can find some other doctor ready to give a certificate. It is somewhat farcical for Mr. Turner to say that the money is handed over to the Local Medical Committee. All that committee does is to scrutinise the doctors' bills, and it has the power, which is often used, to cut down any doctor's bill when his attendances have been above the average, as excessive attendances would, of course, unfairly deplete the pool. When the bills have thus been checked they are sent to the clerk of the Insurance Committee, who again checks them to see that none but insured persons have been included, and the clerk then presents them to the Insurance Committee, which may pass them for payment. Of course, the Local Medical Committee has nothing to do with the drug fund. Up to the present the whole pool has only sufficed to pay the doctors about 60 per cent. of their bills charged according to a scale of fees agreed on between the Insurance Committee and the Local Medical Committee, but this small dividend is solely because of the large number of attendances, the insignificant sum kept in hand by the Insurance Committee making no practical difference. You will see that on our system we avoid your difficulty of unallotted funds, but we have what is to my mind a far worse difficulty—namely, that payment by attendance encourages each doctor to put in as many attendances as possible.

The matter is one of considerable importance, but Dr. Taylor has stated the case clearly, and I think no comment is needed to show that the misunderstanding as to the system of payment in Manchester was Mr. Turner's, not mine.

I am, Sir, yours faithfully,
Oct. 8th, 1913. H. H. MILLS.

THE MEDALS OF THE INTERNATIONAL MEDICAL CONGRESS.

To the Editor of THE LANCET.

SIR,—In the confusion of the Congress a box of Congress medals was lost. It may be that on this account some members of Congress or ladies may have failed to obtain them. If such persons will write to me the medals will be sent to them.

I am, Sir, yours faithfully,
W. P. HERRINGHAM,
Honorary General Secretary.
40, Wimpole street, W., Oct. 4th, 1913.

MEDICAL MAYOR. — Mr. R. Jones Evans, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed mayor-elect for Pwllheli.

UNIVERSITY OF LONDON: UNIVERSITY COLLEGE.—In connexion with the Faculty of Medical Sciences at University College, London, the following awards have been made :—Bucknill Scholarship (135 guineas) and First Medical Exhibition (55 guineas), divided equally between M. H. Oldershaw, of the Brighton Municipal Technical College and University College, London, and D. J. Thomas, of St. David's College School, Lampeter, and University College of Wales, Aberystwyth. W. Feldman, of the Central Foundation School and University College, London, is classed as second medical exhibitioner (without emoluments). Epsom Free Medical Scholarship: E. V. Corry.—The Goldsmid entrance exhibitions have been awarded as follows :—First exhibition: T. H. Somervell, Caius College, Cambridge. Second exhibition: J. Vincent Bates, Pembroke College, Cambridge. Proxime accessit: G. Y. Oliver, University College, London.

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[1] Transactions of the Royal Society of Edinburgh, 1905.

[2] THE LANCET, Jan. 2nd, 1909.

THE NATIONAL INSURANCE ACT.

SANATORIUM BENEFITS IN BIRMINGHAM.

A REPORT on the administration of sanatorium benefits for the year ending July 14th last has been issued by the Birmingham Insurance Committee. In consequence of the policy adopted by the city council it was possible to make early arrangements for the treatment of insured patients at the sanatoriums provided by the council. The first patient was admitted on August 24th, 1912, and a provisional scheme remained in force until July 14th of this year. The Local Insurance Committee has now entered into an agreement with the Birmingham corporation for a period of 30 years under which the corporation will provide the whole of the institutional treatment of insured persons suffering from tuberculosis, recommended by the committee, within the limits of the accommodation and facilities provided by the corporation's scheme for insured and non-insured persons, which when in full operation will include the following accommodation—viz., residential institutions (available for insured and non-insured persons): Yardley-road Sanatorium (including 50 beds reserved for children), 199 beds; Salterley Grange Sanatorium, 68 beds; West Heath Sanatorium, 52 beds; Romsley Hill Sanatorium, 100 beds provided by the Hospital Saturday committee, the corporation having arranged for the use of 90 beds. Dispensary accommodation is provided at the Broad-street Tuberculosis Dispensary for 2000 patients per week.

The treatment provided in the sanatoriums has been very widely appreciated, and the conduct of patients has been generally satisfactory. It has been necessary to expel a few owing to non-observance of rules, but all cases of expulsion have been investigated by the Committee and arrangements made for the patients to continue treatment in some other form, either dispensary or domiciliary. Fifty-eight patients neglected or declined to take advantage of sanatorium treatment, and 31 refused the dispensary treatment recommended. In some cases the reason given was the necessity to continue work in order to obtain means of subsistence for the family. In other cases treatment was declined because patients felt much better in health than when the application was made, and state that they will apply again if their condition changes. 1783 applications for sanatorium benefit were received, of which 1102 were from males and 681 from females. Of these 63 males and 58 females were ineligible on grounds other than health. Of the 1039 males referred by the Committee to the medical adviser for examination, 908 were members of Approved Societies, as were also 527 of the 623 females. During the year 834 males and 533 females were examined, 68 males and 20 females failed to attend for examination, and 137 males and 70 females were awaiting examination at the close of the year. Sanatorium treatment was recommended to 551 males and 347 females—337 males and 206 females to a course of six weeks; while 182 males and 152 females were ordered dispensary treatment. Domiciliary visits were suggested for 89 males and 31 females.

A table shows the occupational incidence of pulmonary tuberculosis, from which it appears the engineers sent the greatest number for treatment—this being 130 males and 18 females; while 104 general labourers were included. There are 103 domestic servants (including charwomen), 66 female press-workers, 43 warehouse workers and 36 clerks on the female side. The residential incidence varies from 3·9 per 1000 in St. Bartholomew's ward to 0·2 in North Erdington. The average for the whole city is 1·9 per 1000. The income for the year was £12,697 9*s.* 7*d.* and the expenditure £11,849 12*s.* 6*d.*, divided as follows: maintenance at sanatoriums, £6267 17*s.*; dispensary, £1142 15*s.* 6*d.*; domiciliary (estimated), £3622 10*s.* 3*d.*; medical examinations, £393; administration expenses, £350; incidentals, £73 9*s.* 9*d.*

THE MEDICAL PROFESSION IN GLOUCESTER AND MEDICAL AID ASSOCIATIONS.

At the recent quarterly meeting of the governors of the Gloucester Royal Infirmary and Eye Institution the following resolution passed by the honorary medical and surgical staff and forwarded to the general committee was read:—

> That the medical staff having been appealed to by the medical men practising in the Forest of Dean and other parts of Gloucestershire to support them in their endeavour to secure adequate remuneration for contract practices,' have decided that in the case of any medical a[illegible] employment of medical men [illegible] the medical profession they will [illegible] in consultation or have pro[illegible] holding office under any such [illegible] private patient or at the Royal Infirmary, and they must therefore decline to treat members of such associations except in those cases urgently requiring hospital treatment.

Two other resolutions explanatory of the situation were also read. The first, which had been passed by the Gloucestershire branch of the British Medical Association, was to the effect that [illegible] established in certain ar[illegible] Insurance Act, and havi[illegible] Benefit Subcommittee, such action was to be deemed inimical to the interests of the medical profession and constituted a breach of faith on the part of the insurance authorities. The branch therefore called upon the staffs of the Gloucestershire hospitals to refuse to recognise professionally those holding appointments in such associations, or to treat members of them except in circumstances of great emergency. The second resolution passed at a meeting of medical men practising in the city of Gloucester was as follows:—

> That this meeting of medical men in practice in the city of Gloucester considers the manner in which medical aid associations carry on their work as injurious to the interests of their patients and unfair to the doctors, and decides to refuse to recognise the staffs connected with these institutions. This meeting calls upon the staffs of all the hospitals in Gloucestershire to refuse treatment to medical aid patients except in cases of great gravity.

It is stated that the two last-mentioned resolutions have been signed by every member of the medical profession practising in the city of Gloucester.

HOSPITALS AND INSURED PATIENTS.

It is a matter of importance to hospitals, and particularly to those to the funds of which working men have been regular subscribers, that the circumstances in which, and the extent to which, insured patients are refused treatment at a particular institution should be made as clear as possible. The statement that insured persons will not be treated at a hospital is one easily made or repeated by a careless hearer without the necessary reservations, and so the story may gain ground that in no circumstances will any hospital treatment be given to a person who is insured. The usual proceeding is that all cases requiring immediate attention, as, for example, accidents, or such special treatment as only a hospital can give, will be treated, but that the hospital staff will not do for nothing that which medical men on the panel are receiving money to do. Attention has been called to this point recently at Cheltenham, and to the loss of income to which a hospital may be subjected by a misunderstanding which is excusable, but which can be removed by the proper explanation being given.

THE ALLOCATION OF INSURED PERSONS NOT MAKING THEIR CHOICE.

The question of the disposal of funds in the hands of Insurance Committees through insured persons not having chosen a medical man on the panel to attend them, and not having been distributed as the Act provides, and generall the question as to how their distribution is to be arranged for, have been occupying the attention of many committees besides that of London, including those of Cheshire, Surrey, Derbyshire, and the East Riding of Yorkshire. In the last-named district the patients who have not chosen their medical men appear to have been already distributed, but we understand that this has been done recently, and do not draw the conclusion that the difficulty which has arisen in London has been entirely avoided in the East Riding. [illegible] which has been emphasised by the [illegible] from Mr. Danckwerts, K.C., h[illegible] incial Insurance Committees referred to, but they will now have had their attention drawn to it. The method proposed to be adopted by any committee for the assignment of insured persons to practitioners on the panel, where no choice has been made by those persons, is one of those matters which has to be submitted to the Insuran[illegible] plan followed in the [illegible] Committee was consult[illegible] a given medical man as far as possible in numbers bearing the same proportion to the total number of persons to be so assigned, that the number on his list bears to the total of the insured persons who have made their choice.

MATERNITY BENEFIT AND A PROSECUTION.

The first prosecution under Section 19 of the National Insurance Act for neglect on the part of the husband to make adequate provision for his wife during and immediately after her confinement, after receiving maternity benefit, has taken place at St. Helens at the instance of the Cheshire Miners' Permanent Relief Society. The defendant received the money, gave his wife 2s. only, and was found lying drunk on her bed; the midwife had to buy milk for the patient and the relieving officer was called in. The defendant received a sentence of 14 days' hard labour, attention being called by the case to the provision in the section of imprisonment up to a month with or without hard labour, but without the option of a fine.

THE NUMBER OF INSURED PATIENTS TO BE ACCEPTED.

The Birkenhead Insurance Committee discussed recently the question of the number of insured patients that a medical practitioner should have on his lists. The general feeling, in the expression of which medical members of the committee took a prominent part, was that there was considerable danger of work being inadequately performed where private practice was undertaken in addition to 1500 or 2000 panel patients, the amount of private practice being an important factor. A motion was carried that the matter should be referred to the Medical Benefit Subcommittee to report upon, the chairman of the committee saying in introducing it that it would be well to know the views of the Local Medical Committee on the subject, and suggesting 2000 as a number which ought not as a rule to be exceeded. The question whether to impose a restriction might involve interference with the right of the insured to choose their doctors, he answered by saying that it was the duty of the committee to see that the insured had adequate attention, and that he had heard complaints made that insufficient attention was sometimes given.

CHANGE OF DOCTOR.

The period is approaching when patients who put themselves on the lists of those medical men who joined the panels early will find themselves able to exercise their right to select another medical attendant should they so desire, and owing to accessions to the panels will also find their range of selection enlarged. Notice has to be given in the case of desired change a month before the expiration of the existing period. It is, we fear, inevitable that it should be felt a hardship by medical men who have come late upon the panels when their former patients having the opportunity do not return to them. Equally the medical man who accepted promptly the situation created by the Act is likely to feel aggrieved when patients leave him for latecomers on the panel. It is to be hoped, however, that resentment or friction, if any arises, will be shortlived. The choice, in any case, will be that of the patient, and it has been the contention of the medical profession throughout that he should be free to exercise it.

THE BRISTOL BOARD OF GUARDIANS AND THE NATIONAL INSURANCE ACT.

At the last meeting of the Bristol board of guardians a resolution was moved to the effect that in future it should be obligatory on all officers appointed to the workhouses that they should be "on the panel" of the resident medical officer. A considerable discussion took place upon the matter, and it was stated that the motion was contrary to the provisions of the Act, which provided that insured persons should have the right under all conditions to select their own medical attendant. Eventually the proposal was defeated, on a division, by 7 votes.

ROYAL MICROSCOPICAL SOCIETY.—The next meeting of this society will take the form of a conversazione at King's College, Strand, on Wednesday, Oct. 15th, from 8 to 11 P.M.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the Second Professional Examination in Anatomy and Physiology held on Sept. 25th, 26th, 29th, and 30th, for which 81 candidates presented themselves, of whom 51 were approved and 30 were rejected, the following candidates were successful:—

William Fletcher Barrett, Charing Cross Hospital; John Behesnilian, and Richard Vincent Bevan, Charing Cross Hospital and King's College; Antoun Bishara, St. Thomas's Hospital; Alberto Henriques Ferreira Bizarro, M.D. Lisbon, Lisbon University and University College; Edgar Scott Bowes, Guy's Hospital; Ingram Richard Rhodes Brogden, B.A. Cantab., Cambridge University and Guy's Hospital; Hari Chan, L.M.S. Punjab, Lahore Unversity; Raghunath Ganesh Dani, University College; Frank Philip Gilbert de Smidt, London Hospital; David McMurray Dickson, St. Thomas's Hospital; Geoffrey Barrow Dowling, Guy's Hospital; Nashed Fahmy, Cairo and King's College; Roy Fazan, Middlesex Hospital; Sourendra Mahon Ghosh, L.M.S. Calcutta, Calcutta University; Edward Austin Gibb, B.A. Cantab., St. Thomas's Hospital; Farid Yusif Hassaballa, University College; Wilhelm Otto Holst, Middlesex Hospital; John Robert John, University College, Cardiff; Llewellyn Price Johns, King's College; Dadabhai Nowroji [illegible] University and University [illegible] College; Dhanjishaw Phir[illegible] Bombay University and L[illegible] Mesurier, London Hospital [illegible] Hospital; Francis Keene [illegible] Raghunath Mirajkar, L.M. & S. Bombay, Bombay University and St. Bartholomew's Hospital; Ernest Cecil de Mallet Morgan, Guy's Hospital; Frederick Maurice Mosely, B.A. Cantab., Cambridge University and London Hospital; Bidhan Prosad Mozoomdar, L.M. & S. Calcutta, Calcutta University; Sinnethamby Muttiah, London Hospital; Canapathy Pillai Nagamuttu, Ceylon Medical College and Middlesex Hospital; Wilfrid Guy Stuart Neely, L.D.S. Eng., Guy's Hospital; Baddeliyanage Don Hugo Philip, Ceylon Medical College and London Hospital; Robert Louis Portway, Guy's Hospital; Charles Young Roberts, St. Thomas's Hospital; Abdel Raoof Roushdy, Cairo and King's College; Percy Gunn Russell, Middlesex Hospital; Bishambhar Sahai, Calcutta University; James Ernest Scanlan, St. Mary's Hospital; Ronald James Scarr, Manchester University; John Milnes Smith, Middlesex Hospital; Godfrey Trehane Symons, King's College; John Aylmer Tippet, St. Thomas's Hospital; Martin Baird Moore Tweed, *Guy's* Hospital; Douglas James Valentine, London Hospital; Harry Cecil Craven Veitch, University College; Herbert Stewart Wacher and Leonard Pengelly Waghorn, Guy's Hospital; and Alban Wilson and Ismail Zaki, University College.

FOREIGN UNIVERSITY INTELLIGENCE.—*Stuttgart:* Dr. Karl Baisch, professor of obstetrics in the University of Munich, has been appointed Chief Physician to the new Gynæcological Department of the Municipal Hospital of St. Katherine.—*Vienna:* Dr. Jakob Erdheim has been recognised as *privat-docent* of Pathological Anatomy.

MANCHESTER ROYAL INFIRMARY OLD RESIDENTS' CLUB.—A meeting of this club will be held at the Midland Hotel, Manchester, on Saturday, Oct. 18th, at 6.30 P.M. The meeting will be followed, at 7 P.M., by a dinner, at which Mr. George H. Pinder will preside. Any old resident who has failed to receive a notice is requested to apply to the secretaries, Royal Infirmary, Manchester.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—The following is the result of the Entrance Scholarships examinations at this school:—University Scholarship, J. J. O. Beven (Cambridge); First Entrance Scholarship, S. C. Shaw; Second Entrance Scholarship, O. L. C. Sibley; Third Entrance Scholarship, G. F. W. Howorth; and Freer Lucas (Epsom) Scholarship, L. W. Hefferman.

DONATIONS AND BEQUESTS.—By will the late Mr. William Weir, of Kildonan, has left £10,000 each to the Glasgow Royal Infirmary and the Glasgow Western Infirmary, £5000 each to Glasgow Victoria Infirmary and the University of Glasgow for additional assistant to the professor of materia medica, £2000 each to the Kilmarnock Infirmary and the Ayr Infirmary, and £500 each to the Glasgow Eye Infirmary and the Glasgow Ophthalmic Institution.—By the death of Mr. Thomas Ryder, of Harrogate, a sum of £20,000, left by his wife to build and endow a hospital at Middleton, subject to the life interest in this sum of her husband and her mother, has now become available for building and endowing a hospital at Middleton, Lancs.—Dr. John Albert Nunneley has left a sum of nearly £45,000 before deduction of legacy duty to the Leeds General

Infirmary and the Royal Mineral Water Hospital, Bath. The first-named institution will receive two-thirds and the other one-third.

THE temporary address of the Wellcome Bureau of Scientific Research until further notice will be 54A, Wigmore-street, London, W.

THE University Scholarship at St. Thomas's Hospital has been awarded to H. H Monk Gould, of Charterhouse and Clare College, Cambridge.

THE Order of the Red Eagle, Third Class, has been conferred upon Surgeon-General W. Schultzen, of the War Office, Berlin.

Dr. Bruegel, of Munich, has been granted the rank and title of Court Physician.

HARVEIAN SOCIETY OF LONDON.—This society will hold a clinical meeting at 8 P M. on Thursday, Oct. 16th, at Paddington Green Children's Hospital, when Dr. Leonard G. Guthrie will take the chair. Cases will be shown by the hospital staff. Members wishing to show cases are requested to communicate with the honorary secretary, Mr. Duncan C. L. Fitzwilliams, 31, Grosvenor-street, Grosvenor-square, W.

CENTRAL LONDON THROAT AND EAR HOSPITAL.—The winter session of the Central London Throat and Ear Hospital, Gray's Inn-road, will commence on Friday, Oct 17th, when Dr. Thomas James Walker will deliver the inaugural address, "*Laryngoscopy 1860 to 1913: a Retrospect*," at 3 P.M The annual dinner of the staff with past and present students will take place the same evening at the Trocadero Restaurant, Dr. Dan McKenzie being in the chair.

LITERARY INTELLIGENCE.—We understand that a French translation by Professor Léon Guinet of the second edition of Dr. H. Charlton Bastian's work "The Origin of Life" has been published by H. Lamertin, of Brussels The article by Dr Bastian entitled "Spontaneous Generation: its Reality and what it Implies," which appeared in the June number of the *English Review*, has also been translated into French, and is published in the *Revue Scientifique* for Sept. 27th.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND CO, LIMITED, 44 and 45, Rathbone place, London, W.

Historical Miniatures By August Strindberg. Translated by Claud Field, M.A. Price 5s. net

BAILLIÈRE, TINDALL, AND COX, London.

Map Scheme of the Sensory Distribution of the Fifth Nerve [illegible]

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

[illegible]

HEFFER, W, AND SONS, LIMITED, Cambridge.

A History of University Reform from 1800 A D to the Present Time With Suggestions towards a Complete Scheme for the University of Cambridge. By A. I. Tillyard, M.A, St John's College, Cambridge Price 10s. net (postage 5*d*).

KIMPTON, HENRY, London STENHOUSE, ALEXANDER, Glasgow.

The Principles and Practice of Gynecology For Students and Practitioners By E C. Dudley, A M, M.D, Ex President of the American Gynecological Society, Professor of Gynecology, Northwestern University Medical School. Sixth revised edition. Price 25s. net.

METHUEN AND CO, LIMITED, London.

Minds in Distress. A Psychological Study of the Masculine and Feminine Mind in Health and in Disorder By A. E Bridger, B A, B Sc, M D, F R S Edin. Price 2s. 6*d* net

NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT, 4, Tavistock square, London, W C

School Clinics at Home and Abr [illegible]

Price 2s. 6*d*. net.

OXFORD UNIVERSITY PRESS (HUMPHREY MILFORD), London (Amen Corner), *New York, Toronto, Melbourne, and Bombay*

Portraits of Dr. William Harvey. Published for the Historical Section of the Royal Society of Medicine. Price 21s. net.

REBMAN, LIMITED, 129, Shaftesbury avenue, London, W.C.

Therapeutics of the Gastro-Intestinal Tract. By Dr. Carl Wegele. [illegible]

Part II Price 25s net.

SCIENTIFIC PRESS, LIMITED, THE, London.

Treatment after Operations By Mary Wiles, Trained at the Evelina Hospital for Sick Children and at the University College Hospital Price 1s. net.

SPRINGER, JULIUS, Berlin.

[illegible]

UNIONE TIPOGRAFICO EDITRICE TORINESE (Già Ditta Pomba), Turin, *Milan, Naples Palermo, Rome*

Prof, Guido Tizzoni. La Pellagra studiata nelle sue Cause. Price L 6.

UNIVERSITY PRESS Manchester. SHERRATT AND HUGHES, 33, Soho-square, London, W.

Modern Problems in Psychiatry. By Ernesto Lugaro, Professor Extraordinary of Neuropathology and Psychiatry in the University of Modena. Translated by David Orr, M.D, and R. G. Rows, M D With a Foreword by Sir T. S. Clouston, M D, LL.D. Second edition. Price 7s. 6d net.

UNWIN, T FISHER, London and Leipsic.

Lord Lister. His Life and Work By G. T Wrench, M D Lond, Author of "The Mastery of Life" Price 15s net.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London. ST. JOHN AMBULANCE ASSOCIATION, London

Pye's Elementary Bandaging and Surgical Dressing. For the Use of Dressers and Nurses Revised and partly rewritten by W H Clayton Greene, B A, M B, B C Cantab, F R C S Eng, assisted by V Zachary Cope, B A, M.D, M S Lond, F R C.S Eng Thirteenth edition Price 2s

WRIGHT, JOHN, AND SONS, LIMITED, Bristol SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO, LIMITED, London. THE MACMILLAN COMPANY OF CANADA, LIMITED, Toronto.

Synopsis of Midwifery. By Aleck W Bourne, B A, M B, B C. Camb, F R C S Eng, Obstetric Registrar and Tutor, St. Mary's Hospital, London. Price 5s net.

YEAR BOOK PUBLISHERS, THE, 327, S La Salle street, Chicago

The Practical Medicine Series Comprising Ten Volumes on the [illegible] Emilius C. Dudley, A M, M D. [illegible] eries 1913 Price $1 35. (Price [illegible]

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication*

BARLOW, W R, M R C S, L R C P Lond, has been appointed Third Assistant Medical Officer at the County Asylum, Dorchester.

BRUCE, A. NINIAN, M D, Ch B Edin, F R S E, has been appointed to the newly instituted Lectureship on Physiology and Diseases of the Nervous System in the University of Edinburgh

COOKE, H W, L R C P. Lond, M R C S, has been appointed Resident [illegible]

KERR, ROBERT ANDREW, [illegible] pointed House Surgeon at the Bristol Royal Infirmary.

LYONS, W. CAMPBELL M B, Ch B Edin, D P H, has been appointed Assistant Medical Officer of Health (Tuberculosis) for the County Borough of South Shields

O'SHAUGHNESSY, E L R C P. & S Edin, L F P.S. Glasg, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Broadford District of the county of Limerick

Parker, George, M.D. Cantab., has been appointed Sole Lecturer in Forensic Medi [illegible] ty of Bristol.

Ritchie, James, [illegible] he newly created Professorship [illegible] Edinburgh.

Salisbury, W., M.B., B.S. Lond., has been appointed House Surgeon at the Bristol Royal Infirmary.

Snodgrass, J. E., M.B., Ch.B. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Raphoe District of the county of Donegal.

Spencer, Gordon Winstanley, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician at the Bristol Royal Infirmary.

Statham, Reginald Samuel Sherrard, M.D., Ch.B. Bristol, has been appointed Registrar to Special Departments at the Bristol Royal Infirmary.

Straton, Arthur A., M.B., B.S. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Wade, E. W., M.B., B.S. Lond., has been appointed House Physician at the Bristol Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

All Saints' Hospital for Out-Patients, Buxton-street, E.—Vacancy on Honorary Staff.

Barnsley, Beckett Hospital and Dispensary.—Senior and Junior House Surgeons, unmarried. Salaries £120 and £100 per annum, with apartments, board, and laundry.

Barnstaple Union.—Medical Gentleman to undertake care of Sick Poor of Parish of Ilfracombe. Salary £100 per annum.

Barrow-in-Furness, North Lonsdale Hospital.—Junior House Surgeon, unmarried. Salary £100 per annum, with board, residence, and [illegible]

Bath Royal [illegible] Physician and House Surgeon. Sal [illegible] board, residence, and laundry.

Bethnal Green Infirmary and Workhouse, Cambridge Heath, E.—Assistant Medical Officer. Salary at rate of £100 per annum, with apartments, board and washing.

Birmingham, Queen's Hospital.—Radiographer. Salary £100 per annum.

Blackburn County Borough Education Committee.—Medical Inspector and Assistant to the Medical Officer of Health. Salary £250 per annum.

Bloemfontein, Union of South Africa.—Bacteriological Assistant. Salary £220 per annum.

Bolingbroke Hospital, Wandsworth Common, S.W.—Two House Surgeons for six months. Salary £75 per annum, with board, residence, and laundry.

Bradford Children's Hospital.—House Surgeon. Salary £100 per annum.

Bradford Union, Eastby Sanatorium.—Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with rations, apartments, and laundry.

Brighton, Royal Sussex County Hospital.—Assistant House Surgeons unmarried. Salary £80 per annum each, with apartments, board, and laundry.

Brighton Throat and Ear Hospital, Church-street, Queen's-road.—Non-resident House Surgeon for six months. Salary at rate of £100 per annum.

Bristol General Hospital.—First House Physician, Second House Physician, and Casualty House Surgeon, for six months. Salary £80 per annum, with board, residence, &c.

Bristol Royal Hospital for Sick Children and Women.—House Physician. Salary £80 per annum, with board, rooms, and attendance.

Bristol Royal Infirmary.—Dental House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and laundry.

Bury Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

Cardiff, King Edward VII.'s Hospital.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

Chelsea Hospital for Women, Fulham-road, S.W.—Pathologist Salary £40 per annum.

Cheltenham General Hospital.—House Physician, unmarried. Salary £100 per annum, with board, lodging, and washing.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Surgeon.

Colchester, Essex County Hospital.—House Surgeon. Salary £100 per annum, with board; [illegible]

Downpatrick, Down Dist. [illegible]—Junior Assistant Medical Officer, unmarr [illegible] nnum, with apartments, board, washing, attendance, &c.

Dumfries and Galloway Royal Infirmary.—Assistant House Surgeon. Salary £65 per annum, with board and washing.

Eastern Dispensary, Leman-street, E.—Resident Medical Officer. Salary £120 per annum, with residence and attendance.

General Post Office, Headquarters Medical Department.—Assistant on Headquarters Medical Staff. Salary £200 per annum.

Glasgow District Mental Hospital, Gartloch.—Junior Medical Officer. Salary £150 per annum, with board, lodging, and laundry.

Govan District Asylum, Crookston, near Paisley.—Second Assistant Medical Officer, unmarried.

Great Northern Central Hospital, Holloway-road, London, N.—Resident Medical Officer. Salary £120 per annum, with board, residence, and laundry.

Great Yarmouth Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Halifax Royal Infirmary.—Third House Surgeon, unmarried. Salary £30 per annum, with residence, board, and washing.

Hamlet of Mile End Old Town.—Junior Assistant Medical Officer. Salary £120 per annum, with board, lodging, and washing.

Hampstead General and North-West London Hospital.—Ophthalmic Surgeon to Out-patients. Also Medical Officer in Charge of X Ray Department. Salary 25 guineas per annum.

Hastings, East Sussex Hospital.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

Hereford County and City Asylum.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum and all found.

Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Maida Vale, W.—Resident Medical Officer for six [illegible] of £50 per annum, with board, lodging,

Hospital for Sick Children, Great Ormond-street, London, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £30, with board, residence, &c. Also Medical Registrar. Salary £200 per annum.

Hull Royal Infirmary.—House Physician, unmarried. Salary £100 per annum, with board and apartments. Also Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

Kensington Dispensary and Children's Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, [illegible] &c.

[illegible] Hospital, South Africa.—Bacteriologist and [illegible] £600 per annum and board.

King Edward Memorial Hospital, Ealing, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

Leeds General Infirmary.—House Surgeon for six months. No salary, but board, residence, and laundry provided. Also Resident Obstetric Officer for six months. Salary £50 per annum, with board, residence, and laundry. Also Resident Medical Officer for three or six months at Ida and Robert Arthington Hospitals. Salary £60 per annum, with board, residence, and laundry.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

Leicester Borough Mental Hospital, Humberstone.—Second Assistant Medical Officer and Pathologist, unmarried. Salary £240 per annum.

Leicester Royal Infirmary.—Surgical Dresser. Salary £10 10s. for six months, with board, lodging, and washing.

Lewes Victoria Hospital.—Resident Medical Officer. Salary £120 per annum, with apartments, board, [illegible]

Leyton, Walthamstow, and Wanstea [illegible] Hospital.—Resident House Surgeo [illegible] annum, with rooms, [illegible]

Liverpool, Parkhill [illegible] d Superintendent, unmarried. [illegible], with board, residence, and washing.

London County Asylum, Hanwell, W.—Junior Assistant Medical Officer, unmarried. Salary £170 per annum, with board, apartments, and washing.

London Fever Hospital, Liverpool-road, Islington, N.—Resident Medical Officer. Salary £250 per annum, with board and residence.

London Lock Hospital.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing. Also House Surgeon to Female Hospital, Harrow-road, W. Salary £100 per annum, with board, residence, and washing.

London Missionary Society, 16, New Bridge-street, E.C.—Female Medical Missionaries for Central China and South India.

Macclesfield General Infirmary.—Senior House Surgeon and Junior House Surgeon. Salary £100 and £80 per annum respectively, with board and residence.

Manchester, City of.—Two Assistant Tuberculosis Officers. Salary £300 per annum.

Manchester Schools for Mothers.—Medical Officer. Salary £250 per annum.

Metropolitan Hospital, Kingsland-road, N.E.—House Physician and House Surgeon. Salary at rate of £60 per annum, with board and washing. Also Assistant House Physician and Assistant House Surgeon. Salary at rate of £40 per annum, with board and washing. All for six months. Also [illegible] at rate of £120 per annum. Als [illegible]

National Dental Hospital and [illegible] W.—Honorary Radiologist.

Newcastle-upon-Tyne Education Committee.—Second Whole-time Assistant Medical Officer. Salary £250 per annum.

Newcastle-upon-Tyne, Hospital for Sick Children.—Senior Medical Officer and Junior Medical Officer for six months. Salary £100 and £80 per annum respectively, with board, lodging, and laundry.

Newcastle-upon-Tyne, Royal Victoria Infirmary.—Refraction Clerk. Salary £50 per annum.

Newcastle-upon-Tyne, University of Durham College of Medicine.—Lecturer in Diseases of the Throat, Nose, and Ear, Diseases of the Skin, and Diseases of Children.

Northampton County Asylum, Berry Wood, Northamptom.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

Nottingham General Hospital.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry.

Oldham Royal Infirmary.—Second House Surgeon and Third House Surgeon for six months. Salary at rate of £100 and £80 per annum respectively, with residence, board, and laundry.

Orkney, Rousay and Egilshay Parish.—Resident Medical Officer. Salary £71 per annum.

Oxford County Asylum, Littlemore, near Oxford.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

Oxford Eye Hospital, Walton-street.—House Surgeon. Salary £100 per annum, with rooms, board, and laundry.

Paddington Green Children's Hospital, London, W.—House Physician and House Surgeon for six months. Salary at rate of £52 10s. per annum in each case, with board and residence.

Paddington Infirmary.—Second Assistant to Infirmary and Medical Officer of Workhouse. Salary at rate of £100 per annum, with board, lodging, and washing.

PARK HOSPITAL FOR CHILDREN, Hither Green, London, S.E.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, residence, and washing.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

[illegible] r six months.

[illegible] N.—Honorary [illegible] Physician and [illegible] Junior House [illegible] louse Surgeon. [illegible] d, and laundry. All for six months.

QUE [illegible]

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Male and Female House Physicians and House Surgeons for six months. Board, lodging, and washing provided. Also Female Junior Obstetric Assistant for six months. Board, lodging, and washing provided. Also Female Medical Registrar.

ST. GILES, CAMBERWELL, INFIRMARY, Brunswick-square, Camberwell.—Junior Assistant Medical Officer. Salary £120 per annum, with apartments, board, and washing.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer for seven months. Salary at rate of £70 per annum, with residence, board, and laundry.

[illegible] vendish [illegible] Medical attendance, &c.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon and Junior House Surgeon. Salary £100 and £80 per annum respectively, with board, residence, &c.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

[illegible] at rate of [illegible] Salary [illegible] Medical [illegible] rtments,

TE [illegible] or.—Medical Officer of Health.

VIR [illegible] AY SANATORIUM HOSPITAL FOR THE INSANE.—[illegible] annum.

[illegible] INFIRMARY.—Resident House [illegible] per annum, with board and lodging.

WILLESDEN URBAN DISTRICT COUNCIL ISOLATION HOSPITAL, Neasden.—Assista [illegible] ry £150 per annum, [illegible]

YORK DISP [illegible] ied. Salary £140 per [illegible]

Births, Marriages, and Deaths.

BIRTHS.

BOULTON.—At Rockcliffe, Mussoorie, India, to Major *Harold Boulton*, I.M.S., and Mrs. Boulton (*née* Maud Mary Garton), a daughter.

RIDOUT.—On Sept. 30th, at St. Elmo, Clarendon-road, Southsea, Hants, to the wife of C. A. Scott Ridout, M.S., F.R.C.S., a son.

MARRIAGES.

BENNETT—TAYLOR.—On Oct. 3rd, at St. Clement's Church, Ste. Madelaine, Trinidad, Richard Charles Bennett, M.B., C.M., to Rose Florence, elder daughter of Mr. and Mrs. *G. W. Taylor*, "Cliftonville," The Polygon, Southampton.

DEATHS.

FAIRBANK.—On Oct. 3rd, suddenly, at Felixstowe, Caversham, Oxon., Frederick Royston Fairbank, M.D., F.S.A., aged 72 years.

THORP.—On Oct. 3rd, at Henley-road, Ipswich, from pneumonia, Henry John Thorp, M.D., aged 81 years.

WALKER.—On Sept. 30th, as the result of an accident, Henry George Walker, M.D.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HEALTH AND HOSPITALS IN GAMBIA.

A REPORT by Mr. W. T. Campbell, Colonial Secretary of Gambia, on the Blue book of the colony for 1912 has been issued as a Parliamentary paper. It gives the population of the colony as 7700 and of the protectorate as 149,463. The number of Europeans, including females, residing in the colony and protectorate during the year was 193. Of these, 17 were invalided and 3 died. The general health was satisfactory and the year was fortunately free from yellow fever, of which there had been an outbreak in 1911. There were 1914 vaccinations performed in Bathurst and 867 in the protectorate. Arrangements have been made for a medical officer to travel through the protectorate and carry out vaccinations, and it is hoped that this will give more satisfactory results. The campaign against mosquitoes has been vigorously carried out, and has resulted in greatly diminishing their number. After the last case of yellow fever in November, 1911, the fumigation of all Government quarters, cellars, and many private buildings was undertaken. The stegomyia species of mosquito has almost disappeared. Among the mosquitoes found in different parts of Bathurst at the end of the year only two were stegomyia; the remainder were mainly culex. The clearing of about 40 acres of mangrove on the western side of the town has greatly diminished the number of mosquitoes in that quarter. The climate of the Gambia is pleasant during the dry season, which lasts from November to May. For the remaining months the conditions are similar to those experienced elsewhere on the West Coast of Africa. The damp and enervating weather is very oppressive and more generally felt, after the several rainless months, than is the case elsewhere. The highest shade temperature recorded in Bathurst in 1912 was 104° F. and the lowest 58°. The rainfall was 33.99 inches.

The hospital at Bathurst has accommodation for 4 first class, 11 second-class, and 10 third class male patients and 15 female patients, including two cots for children. There are also four rooms for isolation cases. The wards for males and females are in separate buildings. A new hospital at MacCarthy Island was opened in 1911, *and is in charge of a European medical officer. It contains a ward for* Europeans and three wards for native patients. There is also a contagious diseases hospital, situated about two miles from Bathurst. Four mild cases of small-pox, all of which recovered, were treated in *this building during the year. The total number of patients treated* in the Bathurst Hospital was 529, of whom 33 died, and in the out-patients' department 7893. At the MacCarthy Island Hospital 66 in-patients and 1356 out-patients were treated.

A DELETION FROM THE MEDICAL DIRECTORY.

To the Editor of THE LANCET.

SIR,—I asked the authors of this useful book if they intended to indicate a practitioner was "on the panel," and they inform me they do not mean to show the distinction. The Directory will be worthless to me, and I have told them to delete my name. I do not intend that the public shall wonder whether I am a "panel doctor." This matter is of immense importance to the profession and the public generally.

I am, Sir, yours faithfully,
JAMES BRASSEY BRIERLEY, M.D. Edin.

Manchester, Oct. 6th, 1913.

TUBERCULOSIS AND THE CINEMATOGRAPH.

To the Editor of THE LANCET.

SIR,—Can any of your readers tell me where cinematograph films suitable to illustrate a popular lecture on consumption can be obtained?

I am, Sir, yours faithfully,
Earl Shilton, Hinckley, Oct. 6th, 1913. PHILIP GELL GARRETT.

"WORM NODULES" IN AUSTRALIAN BEEF.

THE Australian Institute of Tropical Medicine, established in 1903 and enlarged in 1912, has already done good work. The annual report for 1911, now before us, is written by the director, Dr. Anton Breinl, in collaboration with his two colleagues, Mr. Frank H. Taylor, F.E.S., and Dr. T. Harvey Johnston, D.Sc. The institute, situated at Townsville in North Queensland, now receives an annual subsidy of £4000 from the Federal Government of Australia, and judging from the report now before us has already more than justified its existence. One of the chief investigations carried out was that directed towards *the solution* of the problems connected with the occurrence of "worm nodules" (onchocerciasis) caused by Onchocerca gibsoni in Australian beef, an important subject to which we directed the attention of our readers in THE LANCET of Feb. 4th, 1911. *Although the researches under*taken by the experts of the Australian Institute have not succeeded as yet in demonstrating the complete life-history of the parasite, it may nevertheless be said that these investigations have cleared up a number of doubtful points; they have, for instance, definitely excluded mosquitoes, stomoxys calcitrans, and leeches as being intermediary hosts. Unfortunately, the wet season of 1911 was light and therefore unfavourable to the inquiry, experience having shown that the best opportunities for such a research are furnished by a heavy wet season in which a rich insect fauna is present.

THE INDIAN CIVIL SURGEON OF THE PAST.

A DESCRIPTION in the *Indian Planter's Gazette* of the civil surgeon of the dim past shows the progress made in India in the matter of medical attendance :—

> You would hardly guess from his appearance and ways that he was a surgeon and a medical man. He certainly does not smell of lavender or peppermint, or display fine or curious linen, or tread softly like a cat. Contrariwise he smells of tobacco, and wears flannel underclothing. His step is heavy. He is a gross, big, cow-buffalo sort of man, with a tangled growth of beard. His ranting voice and loud familiar manner amount to an outrage. He laughs like a camel, with deep bubbling noises. Thick corduroy breeches and gaiters swaddle his shapeless legs, and he rides a coarse-bred Waler mare. I pray the gods that he may never be required to operate upon my eyes, or intestines, or any other delicate organ.

THE IDEAL BREAKFAST.

To the Editor of THE LANCET.

SIR,—*A propos* of your recent annotation on "meals" may I suggest that—

"*Un œuf* is as good as a feast"

sums up the true philosophy of breakfast diets.

I am, Sir, yours faithfully,

Oct. 8th, 1913. W. B. A.

MEDICAL AFFAIRS IN FIJI.

THE report on the Blue-book of this colony for the year 1912 estimates the total population at 149,179, made up of 4131 Europeans, 2512 half-castes, 48,614 Indians, 2769 Polynesians, 1965 Rotumans, 87,833 Fijians, 397 Chinese, and 958 others. The total rainfall recorded at Suva during the year was 115·406 inches. The highest temperature in the shade was 92·0° F. on March 18th, and the lowest 60·0° on August 25th. The Colonial Hospital at Suva, the principal medical institution, is under the charge of a resident medical officer, assisted by a junior medical officer, a matron, two staff nurses, one graduate nurse, and six pupil nurses, the whole being supervised by the chief medical officer. Admissions during 1912 numbered 1728, of whom 211 were Europeans. There is a branch hospital at Levuka under the charge of the district medical officer, assisted by a matron. This institution provides for the treatment of Europeans as well as natives. There are eight provincial hospitals for the treatment of native Fijians. These are supervised by Government medical officers. The number of admissions to these provincial hospitals during 1912 was 3917. There is a leper asylum on the island of Makogai, under the charge of a medical superintendent, assisted by two European nursing sisters and two native medical practitioners. On Dec. 31st, 1912, there were 154 lepers in the asylum. The work of collection and transportation of lepers formerly residing in all parts of the colony is now nearing completion.

M.D. (Accrington).—Yes.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Oct. 8th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks.
Oct. 2	29 85	N.E	...	94	67	57	59	61	Fine
" 3	29 93	S.	...	107	66	55	56	56	Fine
" 4	29·82	S.	...	75	65	54	55	55	Foggy
" 5	29·63	S W.	0·19	87	59	52	53	55	Cloudy
" 6	29·68	N.E.	0 02	105	66	50	51	52	Fine
" 7	29·54	E.	0 07	79	61	52	56	56	Raining
" 8	29·37	S.W	0·50	90	60	54	55	55	Cloudy

The following journals, magazines, &c., have been received:— Dominion Medical Monthly, Homœopathic Recorder, Quarterly Journal of Medicine, Indian Medical Record, Edinburgh Medical Journal, Archives of Pediatrics, Middlesex Hospital Journal, Child, St. Bartholomew's Hospital Gazette, British Journal of Dental Science, Annales de l'Institut Pasteur, Annales de Gynécologie, South African Medical Journal, American Journal of Orthopædic Surgery, Pediatrics, Therapeutic Gazette, American Journal of Medical Sciences, Medical Review, Quarterly Journal of Experimental Physiology, Revista de Chirurgie, Revista de la Sociedad Médica, &c.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS: at 5.30 P.M.

Demonstration by Dr. Hideyo Noguchi of the Rockefeller Institute.

(1) Pure Cultures of Various Spirochætæ (Treponema pallidum, T. pertenue, T. microdentium, T. macrodentium, T. mucosum, T. calligyrum, T. refringens).
(2) Transmission of Syphilis to Animals by means of Pure Cultures of Treponema pallidum.
(3) Demonstration of Treponema pallidum in the Brain of General Paralytics.
(4) Transmission of Treponema pallidum from the Brain of General Paralytics to the Rabbit.
(5) Production of Symptoms and Lesions resembling General Paralysis in the Rabbit by means of an Intracerebral or Subdural Inoculation with Treponema pallidum.
(6) Cultural Studies of the Virus of Rabies.

Illustrated by Lantern Slides.

TUESDAY.

SECTION OF SURGERY (Hon. Secretaries—J. Murray, Raymond Johnson): at 5.30 P.M.

Mr. Charles A. Pannett: The Selection of the Incision in Cœliotomy.

Mr. Frank Kidd: Pyeloradiography.

Short Historical Survey and Description of the Method. Applications in Practice. Examples will be shown to Illustrate the Diagnosis of Congenital Abnormalities of the Kidney and Ureter, Dilatation of the Kidney, Stone in the Kidney, Abdominal and Renal Neoplasms, &c. Skiagrams exhibited by Mr. Gilbert Scott. Experimental Studies to show the Effect on the Kidney of the Injection of Colloid Silver into the Renal Pelvis. Pathological Reports by Dr. H. M. Turnbull, Experimental Work by Mr. E. C. Lindsay.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 5 P.M.

Dr. Haldin Davis: Demonstration of Coloured Lantern Slides of Skin Diseases made by the Paget Prize Process.
Dr. Knowsley Sibley: Case of Nævus Linearis Bilateralis.
Dr. J. M. H. MacLeod: Case for Diagnosis.

And other Cases.

FRIDAY.

SECTION OF OTOLOGY (Hon. Secretaries—G. J. Jenkins, G. N. Biggs): at 5 P.M.

Mr. W. M. Mollison: Case of Fracture of the Skull with Injury to the Cranial Nerves.
Mr. Sydney Scott: Cas [illegible] with Rapid Recovery afte [illegible]

And [illegible]

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, S. Gilbert Scott): at 8.30 P.M.

Clinical Evening:
Members are invited to bring Specimens, Cases, or Plates.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., General Meeting. 8 30 P.M., The President (Sir David Ferrier, M.D.):—Introductory Address Paper:—Dr. F. Buzzard: Varieties of Facial Spasm and their Treatment.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

FRIDAY.—5 P.M., Prof. Keith: Specimens illustrating the Lesions of Achondroplasia, Osteogenesis Imperfecta, and Allied Conditions. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. [illegible] (Skin) 5.15 P.M., Lecture:—Dr. F. E. [illegible] id Splints in the Treatment of Acute [illegible] Other Nervous Disorders.
TUESDAY.—4 P.M., Dr. H. Campbell: Clinique (Medical). 5.15 P.M., Lecture:—Dr. C. Lockyer: Prolapse.
WEDNESDAY.—4 P.M., Mr. E. C. Hughes: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. S. E. Dore: Alopecia and its Treatment.
THURSDAY.—4 P.M., Mr. A. H. Tubby: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. E. A. Cockayne: Jaundice.
FRIDAY.—4 P.M., Mr. R. R. James Clinique (Eye). 5 15 P.M., Lecture:—Dr. H. C. Miller: Clinical Psychology—3, The Methods and Technique of Psycho Therapy.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Med[illegible] ation of Cases in Wards. 12 noon, Dr. [illegible] Demonstration. 2 P.M., Medical and Surg[illegible] r. Armour: Operations 2 30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Owen: Aneurysm.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards [illegible] Fractures, &c 2 P.M., [illegible] Baldwin: Operations. [illegible] d Ear. Dr. Pernet: [illegible] Owen: Aneurysm.

WEDNESDAY.—Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M.,
12 noon,
lical and
Mr. B.
Women.

THURSDAY.—
12.15 P.
2 P.M.,
Operatio
Lecture
of the Intestines.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. T. Gray. Dis-

Dr. Davis:
Harman:
Anatomy
X Rays.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought

nonstrations:—10 A.M. Dr. Singer:
Surgical. 12 noon, Mr. G. N. Biggs:
—2.15 P.M., Mr. W. Turner: Surgery.
P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine 4.15 P.M., Mr R. Lake: Ear and Throat 3.15 P.M., Special Lecture.—Sir Dyce Duckworth: Endocarditis and its Sequels

M., Dr. G. Holmes:
r, H. MacCormac:
ons 2.15 P.M., Mr
Rankin: Medicine
Heart Block.
A.M., Dr. F. Lang-
11 A.M., Mr. R. E.
ill or Mr. Choyce:
dicine. 3 15 P.M.,
Mr. C. C. Choyce:
Surgery."

THURSDAY.—Out-pati Dr. Singer:
Medical. Mr. H. G. N. Biggs:
Throat, Nose, an g or Mr. W.
Turner: Operatio Demonstra-
tion. 3.15 P.M., P.M., Special
Lecture:—Mr. C. R

FRIDAY.—Out patient
Medical. Mr. Cole
Skin.—2 P.M., M
John Rose Bradfor
Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Col. Barry: Radiography.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Inman: The Behaviour of the Blood in Response to Tuberculous Infection.

of Selected Cases.

M

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SES, Dublin.
nosis of Pregnancy.
Operations.

The Phenomena of
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Operations

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Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 28th-Nov. 6th (Ghent).—International Exhibition.
May 31st to October (London, Earl's Court).—Imperial Services Exhibition.
May-October
June 24th-Oc
M
Wellcome.)
June-October (London, Crystal Palace).—Anglo-German Exhibition.
Oct. 1st-Nov. 1st (London, Shepherd's Bush).—National Gas Exhibition
,, 9th-25th (London, Olympia).—Ideal Home Exhibition.
,, 22nd-25th (Berlin).—Eleventh International Anti-Tuberculosis Conference.
,, 28th-Nov. 1st (*London, Royal Horticultural Hall*).—Twenty-fourth Universal Cookery and Food Exhibition.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial Staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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An Address

ON

HEREDITY AND INHERITANCE AS THEY CONCERN THE PHYSICIAN.

Delivered before the Birmingham Society for the Study of Heredity

BY CHARLES MERCIER, M.D. LOND.,
F.R.C.P. LOND.

MR. PRESIDENT AND GENTLEMEN,—I take it that in inviting a physician, whose profession embraces a very outlying region of biology, to address you on the central theme of this science, which is not his proper subject, and as to which he is an outsider, your object is to learn what bearing the great problems of heredity and inheritance have upon the practice of the physician; how far they influence his views of the nature of disease; how far they modify in his opinion the fate of his patients; and how far and in what way he takes them into account in the advice he gives. This, I say, is my surmise; but it may be that you merely had in your minds an address that I gave in this city a year ago, and based your invitation on the ground that however erroneous the doctrine might be, you would at least hear something racy. If this was your intention I am afraid you will be disappointed. I have nothing to tell you that is not quite humdrum and not much that you have not heard before.

As I have said, I am not an expert in that central realm of biology that includes the problems of heredity and inheritance; but at the same time, in my capacity as a physician engaged in the treatment of mental disease, I have constantly to take these problems into account, for it is impossible, I will not say to understand these diseases, for I do not profess to understand them, but it is *impossible in many cases* to form a trustworthy opinion or to give trustworthy advice without taking heredity and inheritance into account.

EUGENICS.

We hear a great deal nowadays about eugenics, and some of us hear so much about it that we get rather tired of aspirations, praiseworthy, no doubt, but for the most part extremely vague, for the coming of a millennium in which marriages will be arranged by a committee of experts—an expert, I may explain, is a person who is omniscient on one subject and knows very little about any other: I ought to [illegible] on [illegible] most [illegible] of qualities—they breed cows with an eye to milking capacity, steers *for rapid growth and early maturity, poultry for* feather and comb, or perhaps for laying fertility, hounds for speed and scent, and so forth; but the controllers of eugenics in the human race are to breed for a vast number of complex qualities, *and to breed for them all at once.* They are to breed for physical robustness and capacity to resist disease, f[illegible] immunity from sea-sickness; the representative of commerce will look to pushfulness and skill in bargaining; the representative of the *Church will breed for ability* to conduct clubs for working men and mothers' meetings; the representative of art will breed for ability, if not to paint pictures, at least to buy and pay for them; and all will combine to produce a breed of physicians who will practise without desiring fees. I [illegible] ubject [illegible] No [illegible] when [illegible] y the State. We see in everything, from the treatment of suffragettes to the administration of the telephones, how vastly superior is State regulation to the enterprise of private individuals.

A Hypothetical Case as to the Expediency of Marriage.

Eugenics has a peculiar interest for me, because I am often asked to advise on the expediency, from an eugenic point of view, of a marriage. I have no reason to believe that my advice is ever taken, but it is often asked for, and sometimes even paid for, and therefore I have no reason to complain. It *sometimes happens, and cases* of the kind may have come under the observation of some of those here present, that a young man, who may even be middle-aged, becomes enamoured of a young woman to such a degree that he becomes engaged to marry her. And it sometimes happens—and again some of you may be able to corroborate my statement—that after a certain length of engagement he realises the truth of that wise prediction expressed by a neighbouring nation in the well-known words:—

> Tu t'en repentira, Colin,
> Tu t'en repentira;
> Car si tu prends une femme, Colin,
> *Tu t'en repentira.*

In such a case several courses are open to the penitent. He may flee to foreign parts; he may stand the racket of an action for breach of promise; or he may, and often does, come to me and say: "Doctor, I have conscientious scruples. My family positively reeks of insanity. My father's second cousin's first husband drank a barrel of beer a day, and ended his life by spontaneous combustion. This being so, is it not certain that if I marry dear Jemima Brown I shall certainly go raving mad and cut her into little bits? At the present moment I feel so frightfully nervous that if you give me a certificate to this effect I feel confident that I shall so far forget myself as to double your fee." These may not be his precise words, perhaps, but this is the purport of the confidences that I sometimes receive when I am asked to give an opinion on an individual case of eugenics.

The Biometric and Mendelian Methods.

My rule is to decide all cases on general principles, and in accordance with this rule I consult the works of acknowledged authoriti[illegible] eminent statistician and [illegible] and I obtain from him [illegible]osing X to be the character in the parent, and Y the mean character in the offspring, then the equation is

$$Y = A + B \cdot X,$$

where A is a dimension of the same nature as X or Y, and B is a number that will vary from case to case. My difficulty is to know what particular variation of B applies to the case before me; and as Professor Karl Pearson tells me nothing about this, I am unable to apply the formula, and am obliged to turn to his rival and antagonist, Professor Bateson, to see what light the laws of Mendel will throw upon my difficulty.

From Professor Bateson I learn that when a dominant is crossed with a recessive the offspring will all exhibit the dominant character; but in the next generation the dominants will be to the recessives as 3 : 1, and of the three dominants only one will be a pure dominant, the others having the recessive character latent. It is perhaps my density which prevents me from learning from these premisses whether the fact of his father's second cousin's first husband's having drunk a barrel of beer a day will cause Mr. Jones to cut Jemima Brown into little bits in case they should be united in the bonds of holy matrimony. Perhaps it is my density, and I may be unduly biassed in my own favour when I decide that it is not, and that neither the laws of Mendel nor the equations of biometry are of the slightest value in the determination of individual cases. It is manifest on the face of them that they cannot be, and for this reason. The methods of Galton and Pearson are applicable to large numbers, and to large numbers only, *and do not yield results that are even approximately true* until the numbers become very large. To apply biometrics to individual *cases is much* like comforting a convicted and condemned murderer by saying, "Cheer up! There are *only 15 persons hanged every year* in this country out of a population of 40 millions; so that it is 2,666,666·6, &c., to 1 that you won't be hanged!"

The Mendelian method of Professor Bateson is equally *inappropriate.* It tells me that if the father of my patient was a drunken lunatic, and his mother was a paralysed dement, and if the father's drunkenness is dominant and lunacy recessive, while in the mother paralysis is dominant and dementia recessive, and if they have 16 children, then the chances are that nine children will be paralysed drunkards, three will be demented drunkards, three will be paralysed lunatics, and one will be a demented lunatic. This is very interesting, but it is not what I want to know.

I want to know what the chances are that poor Jemima Brown will be cut into little bits in the improbable event of her compelling Mr. Jones to marry her.

Inutility of Biometrics and Mendelism to the Practising Physician.

I have chosen an outside case to illustrate the thesis that I wish to establish, which is that neither biometrics nor Mendelism is of the slightest value to the practising physician. Mendelism has proved its utility in another field by enabling breeders to produce certain strains of wheat and other stock that could not have been produced, or could not have been so rapidly produced, without its aid; and biometrics has no doubt its value in another field by showing the general trend of variation in a large population; but neither of them can be applied to individual cases, and as it is with individual cases that the physician is concerned, neither of them has the slightest value for the physician, and as a physician he is no better off than if Galton and Pearson and Mendel and Bateson had been untimely births which never saw the light.

Seeing that I have already declared that a physician practising in mental disease cannot practise efficiently without taking into account both heredity and inheritance, and seeing that I have now declared that the two accepted—and may I say fashionable?—methods of investigating the facts of heredity and inheritance are quite useless to him, the question arises, What is his attitude to these problems? How does he take them into account? What are the aspects of them that he has to consider?

THE NATURE OF REPRODUCTION.

In order to answer these questions I must lay before you two hypotheses, I think I may go so far as to call them theories, of my own, which I formulated nearly a quarter of a century ago, and which have received, as far as I know, no attention at all, though both are of immediate practical importance. For some reason or other no one takes my doctrines seriously; at any rate, until they are adopted by some German, and are reintroduced into this country as made in Germany.

Characters of Germ and Sperm Cells.

My first proposition is this: Setting aside parthenogenesis, the alleged cases of which that come before the physician being found on investigation to be mythical, all reproduction is due to the union of a male element with a female element—of a sperm cell with a germ cell. My hypothesis is that the contributions of these two elements to the product differ in this way: the female element contributes the substance or matter of the offspring; the male element contributes the force or energy that animates the matter. The female element is the coals in the grate; the male element is the match that sets them alight. The female element is the great mass of dough in the kneading-trough; the male element is the little bit of yeast that leavens the whole lump and sets it all fermenting. The evidence in favour of this view seems to me overwhelming. In the first place, the disparity in bulk of the two elements is very great. The egg cell is of appreciable magnitude. In many organisms it is even visible to the naked eye. The sperm cell is excessively minute. In some cases the disparity is as great as 100,000 to 1. In the beginning and from the beginning, therefore, the female element does, in fact, contribute substance or matter out of all proportion to the amount contributed by the male. In the second place, the female element is lethargic and non-locomotor. It has no power of spontaneous movement, or even of change of shape. The only evidence of life that it gives is the preservation of its structural integrity, which is but brief, and its growth, which soon comes to an end. Its part is vegetative—anabolic. The sperm cell is the very opposite of this. It is extraordinarily active. It is rapidly locomotor. It incessantly changes its shape Its life, which is prolonged, is one of eager, strenuous, and incessant activity. It is the very embodiment of energy.

The Developmental Impetus given by the Sperm Cell.

Now note the result of their union. Before it is fertilised, or as I should rather say energised, by the sperm cell, the germ cell has an inert and vegetative existence. As it is alive, it must contain some stored energy or motion, for this is the character of all living things, but the motion that it contains is potential only, and is consumed internally in making and conserving additions to its bulk. Very rarely does the mammalian ovum even undergo a single segmentation or division previous to impregnation, and if left unimpregnated it soon dies, and dies, I suggest, because the amount of motion it contains is insufficient to hold the mass in equilibrium against the action of incident forces. It dies for the same reason that a top falls when it ceases to spin But now what happens when the minute mass of the sperm cell—a mass altogether insignificant in proportion to that of the ovum—is incorporated in its substance? At once the whole mass is infused with energy. It becomes the seat of active and incessant change. It segments and resegments incalculably. It receives, in short, an impetus that carries it forward for years upon the path of growth and of development. It is this view of conception, that regards it as the reception by the germ of an impetus to growth and development, that is so important and so fertile in the field of mental pathology. I do not deny that the germ contains within itself its own potentiality of development any more than I deny that the mass of coal in the grate contains its own potentiality of burning. Nor do I deny that the speck of matter in the sperm cell contains its own potentiality of indefinite multiplication, so that it may permeate the whole bulk of the organism, however many million times that organism may increase in bulk. I do not deny this any more than I deny that the grain or two of yeast may multiply so as to permeate the sponge in every part. And both the potentiality of the germ to develop and that of the sperm to multiply are important; but the supreme, the vital, the central fact in conception is the impetus given by the sperm to the germ, an impetus that carries the product along the path of growth to adulthood and maturity, and along the path of development until its gradual failure marks the onset of senility. It is this tremendous impetus that matters to the physician for mental disease.

The Implications of the Doctrine.

For note the implications of this doctrine and see how important they are. If you kick a football, or strike a billiard ball with the cue, or a cricket ball with the bat, you give that ball an impulse. You communicate to it an impetus. You send it flying along a path that is predetermined by the conditions. Now, this is the important thing—the distance the ball travels depends, other things being equal, upon the impetus that you communicate to it If you hit it hard it will go far; if you hit it less hard it will go less far. It is the same with the developmental impetus that is given to the germ at conception. If the impetus is a powerful one, the germ will travel far upon the predetermined path of development and growth; if the impetus is less powerful, the germ will travel less far. If the impulse communicated by the sperm is sufficiently powerful, it will make a boundary—it will reach the boundary of the normal. If it gets a tremendous swipe, it will go far over the boundary and become the lost ball of genius. If the impulse it receives is deficient in vigour, it will not reach the boundary, but will fall short of it by a space that will be greater or less according as the impulse is more or less lacking in vigour. The impulse may expend itself in reaching early childhood, or it may suffice to attain late childhood, youth, or adolescence, and according as the development of the brain ceases at one or other of these stages, the result is idiocy, or imbecility, or feeblemindedness, or mere dulness, as the case may be.

Two important qualifications must be made here. In the first place, insufficiency of the developmental impetus is not the only cause of deficiency of mind; in the second, deficiency of mind is not the only result of a defective conceptual impetus. Original deficiency of mind, of whatever degree, from idiocy to dulness, always arises from premature cessation of the development of the brain. This needs no demonstration. It is manifest on the face of the facts. But premature cessation of development may be brought about in two ways. When a cricket ball is driven by the bat it sometimes fails to reach the boundary, and the reason it does not reach the boundary may be that it was not driven hard enough; but it may be that it was driven hard enough, but on its way to the boundary it came in contact with some obstacle, say the hand, or the head, or the abdomen of a fielder, and its course was thus brought to an abrupt termination. Similarly, the development of the brain may cease from premature exhaustion of the developmental impetus, or it may be brought to a more or less sudden close by the intervention of some external agent which forcibly arrests it; and each of these methods is answerable for some cases of mental defect. The accidental intervention which puts a stop to the development of the brain may be a violent blow on the head, or it may be an inflammation of the membranes, or it may be the poison of some specific fever. All these may be said to have been proved by specific instances, but it is clear also that for a full development of the brain it must have an adequate supply of appropriate nourishment; and it is possible, and even probable, that some addition is made to the ranks of the mentally defective by those who are seriously underfed at the time the brain is actively developing. I say seriously underfed, for there is some evidence that the brain is not only greedy but masterful, and that it addresses to the rest of the body that straightforward and downright Dunstable maxim which we may term eutrophic, and which might well be written over the doors of the Chancellor of the Exchequer: "Thou shalt want ere I want." And I say underfed during the time the brain is actively developing because, although the brain goes on developing in some respects until it begins to deteriorate, its development does not proceed continuously. It goes by fits and starts; and this brings me to my second doctrine, which, like the rest of my teaching, has but a single adherent.

DIRECTION OF DEVELOPMENTAL IMPETUS INTO TWO CHANNELS.

The doctrine is this: that after a certain primitive stage of development is reached, it proceeds in two paths, which are complementary to one another, and to some extent inversely proportional to each other. However great the developmental impetus may originally have been, it is limited in amount; and if it is directed into two channels, then the more that flows into one channel the less there is at the service of the other. Those of you whose houses are still lighted by gas will know that at certain hours the gas, which had been burning quietly and steadily, begins to flare and sing, and you account for the change when you remember that at that hour the public-houses close, and a large expenditure of gas is suddenly shut off, leaving an increased pressure at the service of those who are still using it. There is another illustration that I am in the habit of giving. Everyone now knows that gardeners sometimes grow fruit trees consisting of but two stems growing from a single stock. These two stems or branches are fed from a single source of nourishment, which is limited in amount, and it is clear that the more that is attracted to one stem the less there is at the service of the other. Gardeners know of several expedients by which the flow of sap may be regulated and equalised so that neither branch shall grow at the expense of the other. Now if you carry this notion in your minds you will see what I mean when I speak of mere growth in bulk and of development in complexity being complementary to one another, so that the one proceeds at the expense of the other. The more of the developmental impetus or energy that goes to build up bulk of body, the less there remains to produce complexity of development, and *vice versâ*. Now the only organ that at birth is greatly wanting in complexity of development is the brain. All the rest are then almost complete, and thereafter grow in bulk alone, so that after birth the two great competitors for the single supply of developmental energy are bulk of body and complexity of brain; and complexity of brain stands roughly for development of intelligence. If the supply of energy is of average amount, and if it is shared in equable proportion between these rivals, the result will be a brain of average ability in a body of average size; but several modes of departure from this norm are possible, and are exemplified in experience.

Supposing the supply of energy to remain about the average, but the brain attracts more than its due share, the result will be exceptional ability in a person of less than average stature; and you will recall how many men of the highest intellectual eminence have been below the average height. I need only instance five of the greatest commanders in history—Cæsar, Marlborough, Nelson, Napoleon, and Wellington.

If, the supply of energy remaining normal, growth in bulk attracts an undue share, the result will be a brain of little power in a huge body; and it is notorious that giants are more often below the average in ability than persons of ordinary stature. They are not necessarily so, however, any more than dwarfs are necessary geniuses, for a clever giant may be produced by the equable distribution of an exceptionally large store of developmental energy, and an idiotic dwarf is quite frequent from what we may suppose is [illegible] to the developmental [illegible] taken place, but I have no doubt that the amount of this impetus can be materially modified by what takes place before conception, and there is no doubt that the proportions of it that go to increase of bulk and to development of intelligence respectively vary from time to time in the same person.

Precocious Children.

Hitherto I have spoken as if increase in bulk of body and increase in brain development proceeded equally and *pari passu*, but anyone who has watched the growth of children knows that this is rarely or never the case. Precocious children are common enough, and the precocious child is always small for his age; his brain has developed at the expense of his body. For a time the brain develops alone and growth in stature is stationary, and if this period is prolonged the child may become a marvel of precocity. One fond mother confided to me that she should give her child a special education to fit him for the only career that seemed worthy of his marvellous ability—that, namely, of Prime Minister. He was then 6 years old. Now he is the father of a family, and though of fair average business ability, he is not yet Prime Minister, and for my own part I should hesitate to entrust the destinies of the nation to his hands. His history is the history of scores of other precocious children. From five or six to seven or eight they are prodigies of learning and intellectual vigour. They are always top of their class in school, and they bring home prizes in heaps. But after a certain period of uninterrupted success at sc[illegible] are always small for th[illegible] Others, previously their [illegible] take them. They go down and down in the class lists until their parents' hopes are dashed, and even the medical man may be consulted to know if their brains are not giving way. But it is all right. The medical man, if he knows his business, will decide the matter by the measuring rod and the scales. He will notice that the child has begun to grow. He is shooting up by leaps and bounds. His trousers are too short, and his wrists project from his sleeves. By some means, perhaps by the product of some ductless gland, the developmental energy has been switched off from his brain and switched on to his body. Either there is not enough to serve both at once, or the regulating apparatus acts alternately, now one channel being opened and the other shut, and now the conditions being reversed. After a period in which growth proceeds apace, and intelligence seems actually to diminish, the conditions are either reversed again, or more often a better balance is established, and the two proceed together in harmony; but children who have been violently precocious never, in my experience, completely recover the check to growth in stature that they receive during their precocity.

Practical Conclusions.

[illegible] consequences follow. In [illegible]ecocious it is never safe to [illegible]nes on fire. I say nothing about musical prodigies or calculating prodigies, because music and mathematics, like chess, and linguistics, and certain other faculties, have no relation to general ability. They may be highly developed in the dull, and they may be absent in exceptionally clever men. They go for nothing. In the second place, when a hitherto intelligent child becomes stupid, dull, clumsy, and even when it exhibits mental traits that are distinctly abnormal and alarming, we need not be much concerned if we find that it has started into rapid growth; and if the growth is very rapid almost any mental symptom may be witnessed without alarm. In the third place, we need not fear ill results from stimulating the intelligence of a child, even of a precocious child, provided it is healthy in body, eats well, sleeps well, and is not disturbed by dreams, and provided we do not [illegible] the period w[illegible] grow[illegible] of mind. [illegible] growth about 20 per cent. of epileptics, and in the majority of these there were more salient symptoms of the disorder. In four instances the epileptic attack towards its termination presented all the features of an hysterical crisis. In eight cases the epileptic and hysterical fits in the same individual occurred independently. In the majority of the other cases—12—besides the stigmata pointing to hysteria were such symptoms as neuralgic pains, headaches not connected with fits, palpitation, sleeplessness, vivid dreams, tremor, and pain over the heart.

Certain of the hysterical stigmata were found in 25 out of 96 cases of Sydenham's chorea, and in many some more pronounced features of the disease were also present. Together with the incoördinate movements of chorea, there were such manifestations as rhythmical spasm of an arm, rhythmical twitching of the eyelids, regular clonic movements of the legs, and rigidity of the legs. In one case hysterical rhythmical spasm followed chorea after an interval of two days, and in another in the course of two months. In two other instances the chorea was not of the ordinary type, and seemed to be a hysterical or subconscious renewal of former attacks of genuine chorea. In the remainder of the 25 cases there were such symptoms as neuralgic pains and tender spots in 10, vomiting without apparent cause in 2, aphonia in 2, semi-hysterical attacks in 4, typical hysterical cough in 1. To emphasise the distinction between ordinary and the so-called hysterical chorea several tracings were exhibited of rhythmical tremor and spasm.

The infective diseases, continued Professor Glynn, may provoke hysteria, and the affection may complicate their progress as well as follow during convalescence. Cases of rheumatic fever and typhoid associated with hysteria were referred to. Chlorosis for obvious reasons was, he said, very frequently attended with hysteria. Out of 164 cases of chlorosis, 45, or 25 per cent., were hysterical. In 20 out of the 45 there was much headache, as a rule vertical, with restlessness at night and vivid dreaming. Eighteen suffered more or less from obstinate vomiting and gastralgia, 5 had hysterical fits in some form, 8 exhibited fine tremor of the hands, 4 complained of pain and tenderness over some part of the spine, and 3 of great weakness of the legs. Two developed hysterical anorexia.

In Graves's disease the hysterical stigmata were present in 35 per cent.

There was evidence of hysteria in the presence of the stigmata and in a few of other symptoms, in three-fourths of the cases of simple gastralgia in young women. It was not likely that the hysteria was only accidentally associated with the gastralgia, since they were found together in so many instances; moreover, the hyperæsthesias and pains are just as characteristic a feature of hysteria as are the anæsthesias.

He had met with 15 cases of anorexia nervosa, and in each of these certain hysterical stigmata were present. One subject of the disease became comatose and was measured for her coffin, but under vigorous treatment recovered. Two died, one was removed to a nursing home when hopelessly weak and the other recovered for a while but in 12 months relapsed and died. Another case was very exceptional, the subject of the disorder being a boy.

The hysterical stigmata were present in 23 per cent. of the cases of gastric ulcer in young women, that is in patients with a history of hæmatemesis or melæna.

The relation of hysteria to heart disease was of special interest. Such hysterical affections as pseudo-angina, or simple pain over the heart, palpitation, dyspnœa, and syncope, when the heart is normal arouse fears of cardiac disease in the patient, and worry the medical attendant till he lights on the explanation of the symptoms, and when these hysterical accidents occur in cases where there are signs of organic heart disease they are likely to cause the patient's condition to appear more serious than it is. Further, as nervousness, sleeplessness, and pain are usually associated with hysteria the symptoms due to heart disease tend to be aggravated. Several cases were referred to in illustration. One was a girl with mitral stenosis who after a faint lost the power of her left arm; the paralysis proved to be hysterical in nature and not due to cerebral embolism.

In conclusion, Professor Glynn discussed the alliance between hysteria and the functional and organic diseases of the nervous system.

ON THE STATE OF THE BLOOD-VESSELS IN SHOCK.

BY JOHN D. MALCOLM, F.R.C.S. EDIN.,

SENIOR SURGEON TO THE SAMARITAN FREE HOSPITAL, LONDON.

IN 1893 I published[1] my belief that in cases of fever, of post-operative intestinal obstruction, and of traumatic shock there is a contraction of the arteries extending from the arterioles to the larger vessels and progressing until the causal conditions are removed or the patient is moribund. That view was opposed to the teaching of the day that the vessels of the splanchnic area become paralysed in the state of shock and it has also been urged from time to time[2] against the theory that the vessels throughout the body become relaxed. This last theory has for the past six or eight years been almost universally accepted, but recently its accuracy has been less assured, and at the Seventeenth International Congress of Medicine, in the debate on the Pathology of Shock,[3] not one speaker suggested that the arteries are relaxed or dilated in that condition.

The time, therefore, seems opportune for a review of the evidence on this subject, and I propose to state again very shortly the chief points in the argument in favour of the contention that the arteries contract as shock develops, and to indicate some of the more recent facts which have been brought forward in relation to this question. I give precedence to the clinical evidence because it constitutes my justification for offering an opinion and because the value of laboratory work to the surgeon must in the long run be judged by its success in explaining clinical conditions.

Clinical Considerations.

When in the course of an operation a patient passes into the state of shock, even if he loses little or no blood directly from divided structures, his tissues become obviously more and more bloodless, and careful observation during operations upon the abdomen shows that the anæmia is as conspicuous in the splanchnic area as in any other. This observation has been confirmed by Dr. G. W. Crile[4] who wrote concerning his laboratory work that both before and after death from shock "the arteries were quite empty, the tissues pale." He also said that when the splanchnic area was not involved in the manipulations of an experiment "autopsies did not reveal a condition of vascular distension in this area different from that of other areas."[5] Unless these observations are altogether mistaken, it is certain that there is no dilatation of the vessels generally or of those in the splanchnic area alone in the state of shock.

During the progress of severe operations it may occasionally be observed that the arteries become imperceptible at the wrist whilst the pulse-rate is not quickened or even is slower, and the beats of the carotid are full and bounding. On one occasion it was noted that at the end of an operation upon a healthy young woman the pulse-rate was 48 to the minute, and no pulsation was perceptible in any vessel of the extremities. The operation, an ovariotomy, was not a severe one, and the usual state of the vessels was restored after a very short time. A similar combination of signs was frequently observed passing gradually back to the normal or developing into the rapid heart action which is characteristic of well-marked cases of shock.

Such conditions could only arise from an increased opposition to the flow of blood through the small vessels and a well-sustained output of blood from the heart. The dissociation for a time of the small, weak, or imperceptible pulse from the hastening of the heart beats which usually accompanies it suggested that the arterial contraction was the more constant change. It did not seem possible that in some cases the arteries could be contracted whilst in others they were relaxed, or that in the particular cases now under discussion the active contraction which certainly occurred could become a relaxation without some sign of the gradual or sudden change. If the change was gradual the pulse at the wrist would come back to its ordinary volume if only for a short time, a condition never observed during the development of shock. If contraction of the vessels suddenly became relaxation there would certainly be some acute disturbance which could not be overlooked clinically. As there were no signs of any such changes, there could be no doubt that the contracted vessels did not relax.

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[1] The Physiology of Death from Traumatic Fever, J. and A. Churchill; also THE LANCET, Feb. 25th (p. 408) and March 4th (p. 460), and 11th (p. 519), 1893.

[2] THE LANCET, August 26th (p. 573), 1905; Brit. Med. Jour., Dec. 9th, 1905; Transactions of the Royal Medical and Chirurgical Society, vol. xc., p. 563; Transactions of the Medical Society of London, 1909.

[3] Section III., General Pathology and Pathological Anatomy, August 11th, 1913; THE LANCET, Sept. 16th, 1913, p. 726.

[4] Surgical Shock, 1899, p. 140.

[5] *Loc. cit.*, p. 139.

All authorities agree that the heart is stimulated to greater effort as shock develops and there seemed to me to be much reason for believing that the slow heart action associated with a small or imperceptible peripheral pulse might be observed more readily, if not only, in cases in which the heart muscle was relatively strong. When these observations were made the work at the Samaritan Free Hospital consisted in great part of the removal of large ovarian tumours, and it seems probable that such cases offered unusual opportunities for the observation of the effects of a comparatively powerful heart. It is well known that cardiac hypertrophy is a physiological effect of gestation, and it is reasonable to suppose that the presence of an ovarian tumour would at least occasionally induce a similar change. This view was supported by the fact that in a few cases an opportunity was obtained of examining the heart at a necropsy when its action had for a time remained slow after the pulse at the wrist became very small or imperceptible, and in these cases the cardiac muscle was always well developed, whilst in one instance there was a very obvious cardiac hypertrophy without any gross cardiac or renal lesion or other discovered cause of this condition except the presence of the tumour. The facts recorded led me to assert in 1893 that "if the heart be sufficiently strong its action remains slow,"[6] but that if still greater contraction of the vessels takes place the heart becomes relatively feeble and its pace quickens.

The extreme pallor in all the tissues, the definite evidence that in some cases the arteries were tensely contracted whilst the heart action was not hastened, the known fact that stimulation of the sensory nerves causes arterial contraction, and many other observations which cannot be set down in a short paper, were considered together to form a proof that "in traumatic fever, in shock and in abdominal distension following a laparotomy, the small feeble pulse, whether slow or fast, is in no sense due to cardiac weakness, is not a condition beginning at the heart, but is an immediate effect of the contraction of the vessels."[7]

If these contentions were true it was certain that the total volume of blood in the arteries must diminish, and in the absence of any marked venous distension it was argued that the fluid parts of the blood must escape from the vessels into the tissues. In cases of intestinal obstruction after abdominal operations, in which also it was held that the vascular capacity steadily diminished, there was no doubt that a great loss of fluid from the body did occur, because this condition is characterised by an extreme degree of exudation of fluid into the intestine and out of the body by vomiting. Moreover, in this condition the vomited fluid is at first clear, and gradually becomes yellow, green, brown, and nearly black. These changes indicate that not only fluid escapes from the vessels, but that there is also an excessive and increasing destruction of blood cells in the liver. In the state of shock there is little time for such obvious indications of blood destruction to show themselves, and it does not follow that an excessive secretion of bile of short duration will be ejected from the stomach through the œsophagus, but sometimes recovery from shock is accompanied by vomiting of bilious or even black fluid, and the amount of fluid lost from the skin is always great when the condition is well marked.

The loss of fluid and other constituents of the blood from the vessels was regarded as the cause of the extreme anæmia of the whole body, and death was attributed to a starvation of the various tissues and organs which might be traced in the evidences of the failure of their functions. When the vaso-motor centres were affected the whole body died.

Experimental Considerations.

A short *résumé* of the experimental evidence shows that it is conclusive in support of the clinical. The theory that in shock the animal bleeds into its own splanchnic veins has now no supporters. Dr. G. W. Crile's first book advocating the view that shock is characterised by a general vascular relaxation was published in 1899,[8] and in that year also Romberg and Pässler[9] advanced the same view on very much the same grounds with regard to the conditions found in toxæmic fevers. In regard to both shock and toxæmic fevers it was argued that death was not due to cardiac failure, as was then generally believed, but that there arose a loss of tone in the vaso-motor system followed by a failure of the circulation when the vessels relaxed. This view had a great vogue as regards shock until quite recently. Romberg and Pässler's communication did not apparently attract so much attention.

The argument depended entirely upon the interpretation of the fall of blood pressure. It has long been known that a stimulation of sensory nerves excites reflexly a general arterial contraction and a consequent rise of blood pressure in the large arteries. Conversely a relaxation of the vessels lowers blood pressure in the large arteries. It was shown in 1899 that if the stimulations of tissue were sufficiently severe or if fever was sufficiently continuous the blood pressure after a rise fell very low, and this was regarded as a proof that arterial relaxation had occurred. It was argued that the fall of the pressure became so great that when the state of shock was fully established the vessels were completely relaxed, and this condition was attributed to a paralysis of the vaso-motor centres from over-stimulation and consequent exhaustion of their energy. But this argument omitted altogether the possibility that the volume of blood in the vascular system might diminish and the obvious fact that the tissues became anæmic both in shock and in fever. As Yandell Henderson has pointed out, the conclusion that the vessels relaxed was arrived at because the authors of this view "applied to their problem that conception of the circulation which the physiology of to-day teaches. This was their sole mistake."[10] Many new facts were demonstrated by detailed records of most interesting experimental work, and none of these facts have been contradicted in any material respect, but the evidence is now very strong that the interpretation was at fault. As early as 1903 physiologists began to question the evidence that the vaso-motor centres become paralysed. In that year Professor W. T. Porter and Dr. W. C. Quinby, of the Harvard Medical School, published experiments showing that in the state of shock the vessels were still influenced reflexly by nerve stimulations, and they concluded that "exhaustion of the vaso-constrictor nerves cannot therefore be the essential cause of the symptoms termed 'shock.'"[11]

In 1907 Professor Porter recorded another "investigation into the effect of uniform stimulations of the depressor brachial and sciatic nerves at various levels of blood pressure from the normal down to about 9 mm."[12] of mercury. He showed that "the absolute change in blood pressure upon stimulating these afferent nerves remains almost unchanged until the blood pressure has fallen to about one-third its usual height,[13] and that "the reflex fails only when the blood pressure sinks to a level at which anæmia of the vaso-motor centres is certain. Indeed, all we know regarding these and similar cells strengthens the belief that their endurance under stimulation is very great. On the other hand, they are extraordinarily sensitive to changes in the blood-supply." It was added that "the data presented are wholly opposed to the hypothesis that would explain surgical shock by the exhaustion of the vaso-motor centres."[14]

The question of the state of the vessels in shock was also studied by Dr. M. G. Seelig and Professor E. P. Lyon, of Saint Louis, Mo., U.S.A.,[15] who performed an ingenious experiment upon a series of dogs showing that division of the sciatic nerve made a greater proportional increase of the blood flow from the previously divided femoral vein in a shocked animal than the increase observed in the other leg of the same animal before the state of shock was brought about. The deduction was drawn that "this proportional difference must be referred to the fact that in the shocked animal, before division of the sciatic the vessels are in a state of greater contraction than they are in the normal animal." The authors of these observations invited Dr. John Green, jun., to examine the eyes of dogs before and after the induction of shock, and to note carefully the size of the vessels of the fundus without telling him what was or was not expected. "In every instance he reported that the vessels showed a marked degree of contraction after the animal was in shock." Sometimes the vessels resembled mere threads, and in one case the contraction was observed immediately before the animal died.

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[6] The Physiology of Death from Traumatic Fever, p. 67. Physiological teaching was quoted in support of this view.

[7] Loc. cit., p. 66.

[8] Surgical Shock, Boston, 1899.

[9] [illegible] Clinische Medicin, 1899, vol. lxiv., p. 652.

[10] [illegible] Physiology, vol. xxvii., p. 154.

[11] [illegible] 903, pp. 455-56; American Journal of [illegible]

[12] [illegible] Physiology, 1907, xx., p. 339.

[13] [illegible] cit., p. 404-05.

[14] Loc. cit., p. 405.

[15] Journal of American Medical Association, Jan. 2nd, 1909, vol. lii., pp. 45-48.

Dr. Eugene Boise holds that the chief cause of the fall of blood pressure in shock is an abnormal increase in cardiac contraction and a decrease of cardiac relaxation by which the capacity of the heart becomes so reduced that it cannot adequately fulfil its propelling functions. From an analysis of Crile's records and from his own investigations Boise argued that in shock "there is an excessive irritation of both the vascular and cardiac centres whereby the arteries and heart are both almost spasmodically contracted."[16]

Professor Yandell Henderson, of Yale University, U.S.A., has formulated a very large conception regarding the effects of diminution of the quantity of CO_2 in the tissues. His views are in many respects altogether original, and they seem to me to throw a flood of light upon conditions about which we have hitherto been quite in the dark. Haldane and Priestley had confirmed[17] the observation of Miescher that variations in the amount of CO_2 in the body are very important and had shown that very slight differences of the pressure of this gas in the pulmonary alveoli (normally about 5·5 per cent. of an atmosphere) lead to an immediate hastening or slowing of the respiration until the normal tension is readjusted.

Mosso had demonstrated[18] that under reduced atmospheric pressure the CO_2 content of the blood is diminished and that this diminution is one of the causes of the disturbance of function in mountain sickness. He suggested the term acapnia (α, privative, and καπνός, smoke) for this diminished pressure of CO_2.

Following up these indications Henderson worked out his scheme and he has summarised his views thus.[19]

> From the data to be presented in this series[20] of papers it appears that the CO_2 content of the blood exercises regulating influences upon the heart rate, upon vascular tonus, upon the peristalsis of the alimentary canal, upon the mental condition and upon a number of other functions of the body to a degree so far as we can find from the literature, hitherto in great part not demonstrated. These data show that even a slight reduction in the CO_2 content of the arterial blood causes a marked quickening of the heart rate. Further reduction induces an extreme tachycardia, complete cessation of peristalsis, failure of many reflexes and coma. If an extreme reduction of the CO_2 content of the blood is effected very rapidly the heart comes into a state bordering on tetanus. This cardiac tetanus practically abolishes the pumping action of the heart, arterial pressure falls therefore, and death results.
>
> If the reduction in the arterial CO_2 is less extreme, but is maintained for a considerable time (an hour or more according to the extent of the reduction), so that the tension of CO_2 in the venous blood and in the tissues is greatly reduced, symptoms and conditions result which are similar in many respects to those occurring in mountain sickness and apparently identical with those of shock.

Henderson says that "acute acapnia diminishes the volume of the blood as effectively as does an extensive hæmorrhage,"[21] and that "arterial pressure ultimately sinks in spite of an intense activity (not because of failure) in the vaso-motor nervous system, and in spite of an extreme constriction (not because of relaxation) of the arterioles."[22]

The influence of a subnormal amount of CO_2 in the tissues has been investigated also by Dr. E. Jerusalem and Professor E. H. Starling of University College, London, who state that their experiments[23] confirm Yandell Henderson "in his description of the action of the heart when the CO_2 of the blood is reduced to very low limits."

Thus from many independent sources there is an overwhelming mass of experimental evidence, and much more could be quoted, to the effect that the heart and the vessels are both stimulated to increased activity as the state of traumatic shock develops.

But Yandell Henderson's scheme involves a much wider area than the vascular changes in shock. He says that acapnia has been found "in many forms of fever, in diabetic coma, in the conditions consequent on violent muscular exercise, and in that form of shock which results from the intravenous injection of albumose and 'peptone.' In all of these conditions, as well as in mountain sickness, excessive artificial respiration, and surgical shock, there occur at one stage or another, and in varying order, hyperpnœa followed by shallow respiration or apnœa, tachycardia, venous congestion, and fall of arterial pressure, muscular weakness, suppression of reflexes, disturbances of consciousness and disturbances of the motor functions of the alimentary canal."[24]

It is impossible in a short paper to attempt to give any adequate account of Yandell Henderson's teaching, but it seems to be in complete accord with my contention mentioned at the beginning of this paper, that in cases of fever, of post-operative intestinal obstruction, and of traumatic shock there is a persistent and increasing contraction of the arteries, a conclusion which I believe to be demonstrable at the bedside.

These very short remarks indicate with as little detail as possible the views of the state of the vessels in shock which seem to me to be supported by the clinical and experimental facts set forth. The matter is obviously of great importance, for if it is a mistake to believe that the vessels relax as a consequence of severe or continuous injuries it is hardly likely that much real progress can be made in the study of operative conditions until that mistake is rectified. The opposite view that the vessels contract offers a much more certain guide both for understanding and treating the conditions found. And as regards the detail that in fevers and in shock the same vascular changes take place, I am convinced that this fact, as I believe it to be, gives an immense advantage in understanding clinical phenomena to those who accept it.

Wimpole-street, W.

FOURTH REPORT ON TYPHOID CARRIERS.

BY D. S. DAVIES, M.D. LOND., LL.D., D.P.H.,
MEDICAL OFFICER OF HEALTH OF BRISTOL;
AND
I. WALKER HALL, M.D. VICT.,
PROFESSOR OF PATHOLOGY, BRISTOL UNIVERSITY, AND PATHOLOGIST TO THE BRISTOL ROYAL INFIRMARY.

With the Assistance of G. SCOTT WILLIAMSON, L.R.C.P. & S. Edin., L.F.P.S. Glasg., *Pathologist to the Bristol General Hospital;* and B. A. I. PETERS, B.A., M.D., D.P.H. Cantab., *Resident Medical Officer, Ham Green Hospital, Bristol.*

IN the last report[1] it was concluded that the results then obtained justified a prolonged study of the case in hand. The present note deals with the further course of the condition.

The methods employed are the same as were detailed in former communications. For reasons previously stated the examinations have been limited to the search for typhoid bacilli in the excreta, the determination of the agglutinin contents of the serum, and the action of therapeutic agents.

The carrier was a female, aged 33, who had enteric fever in July, 1905. Since that date eight cases of infection had been traced to her. She came under observation in January, 1909, and proved to be a urinary carrier. For a period of three months urotropine was given continuously. The excretion of typhoid organisms in the urine was decreased but not inhibited entirely. On April 21st, 1909, a bacillary emulsion prepared from the patient's own organism was given. The doses were continued until 1000 millions were reached. The injections were discontinued on Sept. 29th,

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[16] The Nature of Shock, American Journal of Obstetrics, vol. lv., No. 1.

[17] The Journal of Physiology, 1905, vol. xxxii., p. 225.

[18] Mosso and Marro; Archives Italiennes de Biologie, 1903, vol. xxxix., pp. 387, 395, and 402; also 1904, vol. xli., p. 357, quoted by Yandell Henderson. American Journal of Physiology, 1908, vol. xxi., p. 136.

[19] American Journal of Physiology, 1908, vol. xxi., p. 128.

[20] Acapnia and Shock, loc. cit., 1908-1910, vols. xxi.-xxvii.

[21] American Journal of Physiology, vol. xxvii., p. 161.

[22] Loc. cit., p. 158.

[23] Journal of Physiology, 1910, vol. xl., p. 284.

[24] American Journal of Physiology, vol. xxi., p. 141.

[1] THE LANCET, Sept. 3rd, 1910. See also Journal of Pathology and Bacteriology, 1910, vol. xv., p. 120; THE LANCET, 1908, vol. ii., p. 1585; and Proceedings of the Royal Society of Medicine, 1908, Epidemiological Section, p. 175.

1909 *From October, 1909, to January, 1910, typhoid* bacilli were not excreted in the urine On Jan 4th they reappeared and persisted until Feb 27th During this period the agglutination reactions varied from 1 1000 to 1 1800 Potassium citrate was given for three weeks There was a cessation of the bacillary excretion until the following July

Fourth Report

The observations now recorded show that the urine of this patient has remained free from typhoid bacilli for two years We feel justified in recommending the discharge of the patient from hospital, subject to her promise to report herself should any of her former symptoms reappear, or for additional treatment if current experimental investigations upon the adjuvant action of drugs or metals upon typhoid bacilli prove worthy of trial in similar conditions

On Nov 1st, 1910, the patient was removed from the Ham Green fever hospital to the Bristol Royal Infirmary and placed under the care of Dr J A Nixon Her temperature was normal and her general systemic condition good On the 7th a cystoscopic examination was made by Mr C F Walters He states —

> The bladder was found to be normal except at the right ureteric orifice the lips of which were markedly *œdematous and superficially*
> [illegible] was an area of trabeculation
> [illegible] difficult owing to the œdema
> [illegible] 1½ inches only here there was
> [illegible]

The urine obtained from the right ureter contained much pus and yielded a pure growth of typhoid bacilli The left ureter was catheterised with ease, and the urine was free from pus and typhoid bacilli A skiagram was taken, it showed a shadow in the region of the right kidney On the 21st Mr Walters explored the right kidney To the naked eye it did not show any abscesses cysts, or contractions When bisected longitudinally during a search for foci of suppuration ten small calculi were found lying in one mass near the pelvis The calculi were removed the cavity was scraped, and the kidney sutured and returned into the body The renal cavity yielded a pure growth of typhoid bacilli Typhoid bacilli were isolated from the calculi also The calculi were composed of phosphates and organic material only At noon on the next day the temperature commenced to rise, reached its highest point (104 2° F) on the 24th and then fell [illegible] normal on Dec 1st A slight [illegible] recovery was uneventful [illegible] reached and remained at 1 1500 On the day following the operation bacillus *typhosus was grown from 5 c c of blood obtained in the* usual way Pus and typhoid bacilli were found in the urine during the first four days after the operation the agglutination reaction being positive 1 1000 During the following fortnight the typhoid organisms disappeared from the urine and the agglutination fell to 1 250 Pus and bacilli then reappeared and persisted for the next eight months

Comparing the clinical features of the case at the time with those of Rousing,[2] Greaves[3] and Adrian, and Meyer and Ahreimer[4] the condition was less advanced as there was not any definite pyonephrosis, nor were there any signs of a marked renal involvement, such as acute localised pain or difficulties with micturition At the operation the renal pelvis did not appear to be affected However, the changes in the right ureter were of long standing, so that the pelvic mucosa most probably shared in the *ureteral focus* The *bladder remained free from superficial* changes

The rise of temperature subsequent to the operation and the concomitant appearance of typhoid bacilli in the blood stream as well as in the later increase in the agglutinin content suggest that a mild septicæmic condition was brought about by the disturbance of the focus The chart on next page [illegible] were rapidly overcome We [illegible] as to the occurrence of any [illegible] his invasion Had the immunity been low or the organisms of exalted virulence such a result might have been produced

Course of Bacteriuria —Onwards from the operation the typhoid organisms and pus were present in the urine On

TABLE I —*Showing the Results of the Examinations of Blood and Urine subsequent to the Last Report* *

Date	Urine: Pus	Urine: Typhoid bacilli	Blood Widal
1910			
April 10	—	—	1/1860
11	—	—	1/1860
12	—	—	1/1860
13	—	—	1 1860
May 4	—	—	1/1860
	—	—	1 1860
6	—	—	1 1860
8	—	—	1 1860
June 6	—	—	
7	—	—	
July 10	+	+	
11	—	+	
12	+	+	
13	+	+	
August 5	+	+	
6	—	+	
Sept 15	—	+	
16	—	—	
Oct 7	—	+	
9	+	—	
21	+	+	
Nov 7	+	+	
9	+	+	1 1000
21	+	+	
23	+	+	
24	+	+	1000
25	+	+	
28	—	—	1 1500
29	+	—	
30	+	—	
Dec 1	—	—	1/100
2	—	—	1/250
7	—	—	1 250
14	—	—	1/250
16	+	+	1/2000
18	+	+	
1911			
Jan 4	+	—	1 500
5	+	—	1 250
6	+	—	1 250
23	+	—	
24	+	—	
25	+	+	1 250
Feb 7	+	+	1 250
8	—	—	
9	+	+	
12	+	+	1 250
13	+	+	
14	—	+	
March 2	+	+	
3	+	—	
4	+	+	1/250
25	+	+	1/250
26	+	—	
27	+	—	
April 12	+	—	
13	—	—	1/200
14	—	—	1/200
May 1	+	—	1/250
2	+	—	
3	+	—	
June 11	+	+	
12	+	+	1 250
13	+	+	
July 1	+	+	
2	+	+	
3	+	+	
August 17	+	—	1 250
18	+	+	1/250
19	+	—	1 250
Oct 2	—	—	
3	—	—	
4	—	—	
5	+	—	1/1500
6	—	—	
25	—	—	1 2000
26	—	—	1/1500
Nov 2	—	—	
3	—	—	
19	—	—	1/2500
Dec 15	—	—	1 1000
18	—	—	
1912			
Jan 2	—	—	1/2500
3	—	—	
4	—	—	
13	—	—	
17	—	—	
18	—	—	1/2500
Feb 13	—	—	
March 7	—	—	
8	—	—	
April 2	—	—	1/2500
30	—	—	1/500
May 6	—	—	1 500
14	—	—	1/1000
15	—	—	
22	—	—	1/500
29	—	—	1/500
June 7	—	—	1 500
11	—	—	1/500
16	—	—	
17	—	—	
25	—	—	
July 2	—	—	
11	—	—	1/500
24	—	—	1/500
26	—	—	
August 14	—	—	1/500
28	—	—	1/500
Sept 2	—	—	1/250
12	—	—	
18	—	—	1/125
25	—	—	1/125
Oct 1	—	—	1/250
8	—	—	1/500
15	—	—	1/500
26	—	—	
28	—	—	
29	—	—	
31	—	—	
Nov 1	+	—	
2	—	—	
4	—	—	
5	—	—	
6	—	—	1/250
7	+	—	
8	—	—	
11	+	—	
12	+	—	1/500
22	+	—	1/250
26	+	—	1/500
Dec 10	—	—	1/250
19	—	—	1/250
31	—	—	1/250
1913			
Jan 10	—	—	1/250
15	—	—	1/250
28	—	—	1 500
Feb 12	—	—	
April 2	—	—	1/250
7	—	—	1/250
17	—	—	1/125
22	—	—	
30	—	—	1/250
May 14	—	—	1 150
June 11	—	—	1/12
19	—	—	1/125
25	—	—	1/125
July 6	—	—	1/150
23	—	—	1 150

* G S W is responsible for October 1910 the whole [illegible] 1911 and [illegible] for Jan 2 3 4 17 18, March 7 8 June 16 17 [illegible] responsible for the remainder [illegible] for the [illegible] B A I P made all the [illegible] ations wh[illegible] Ham Green fever hospital

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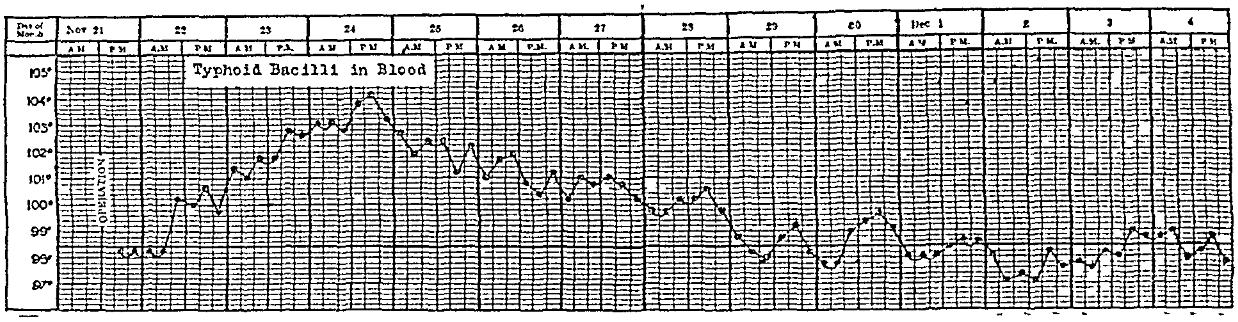
[illegible] Pa l n 1908 [illegible] ler



Temperature chart for the days following operation.

March 4th, 1911, therefore, it was decided to give the patient one drachm of borovertin daily. This was continued until May 24th, when it was stopped, because the patient complained of being "run down." During this period of administration of the borovertin she lost 7 lb. in weight. When the drug was discontinued recovery to her usual condition was rapid. On July 31st she had regained her average weight. Borovertin was then recommenced and given in the same doses until Sept. 2nd. The weight again fell 5 lb. During these courses of borovertin the excretion of bacilli was unaltered. On reference to Table I. it will be seen that pus and bacilli were present in the urine throughout.

Course of specially prepared Bacterial Emulsion.—On July 1st, 1911, the blood yielded a typhoid organism which was agglutinated by the patient's own blood in 1:500, and after three weeks' cultivation 1 : 800. Cultures of this organism and of a subculture from the urine were repeatedly subcultured for three weeks on (1) serum agar, (2) blood agar prepared with the patient's own blood, and (3) carbolic acid agar (1:10,000 gradually increasing to 1:500). At the end of the three weeks a bacterial emulsion was prepared from a mixture of the growths on the several media and injected.

Table I. shows that the urine ceased to contain pus and typhoid bacilli during October, 1911, while the agglutinating power of the blood rose to 1/2500. The systematic examinations carried out since then until July 23rd, 1913, have failed to reveal any further excretions of the organisms, while the agglutination titre has fallen to 1/150.

TABLE II.—*Injections of Bacterial Emulsion.*

Date.	—	Remarks.
1911.		
Sept. 2nd.	25,000 000	—
" 3rd.	50 000,000	—
" 4th.	100,000,000	—
" 5th.	400,000,000	—
" 6th.	800,000,000	Giddiness and malaise were complained of. There was also slight pyrexia.
" 23rd.	1,600,000,000	—
" 27th.	3,200,000,000	—
Oct. 1st.	6,400,000,000	Giddiness and sickness. Pyrexia. Compelled to remain in bed for three days.

Blood cultures.—The blood has been examined during the periods of bacillary excretion. On four occasions it has been found sterile; twice it has yielded a strain of bacillus typhosus which was agglutinated 1:500 by the patient's own serum, the agglutination reaching 1:800 after repeated subcultures during three weeks.

Inhibitory power of urine.[5]—Table III. shows the inhibiting power of the patient's urine upon various micro organisms The effect was not obtained when the urine was boiled before being added to the emulsions. Exposure of the urine to strong sunlight did not alter the inhibitory power. Normal and carrier urines were filtered through a Chamberland candle. 0·1 c c. of urine and 0·1 c.c. of an emulsion containing 10 millions of B. coli, B. typhosus (the various strains being denoted by the letters A, B, C) or staphylococci, were incubated for 1–2 hours, and then shaken and sown upon lactose litmus agar plates. After 48 hours at 37° C. the resultant colonies were counted.

TABLE III.—*Showing the Inhibitory Power of the Urine upon Various Micro-Organisms.*

Date.	Urine quantity.	Normal urine, number of colonies per plate.	Carrier's urine, number of colonies per plate.	Bacterial strains.
1911.				
May 2nd.	0 1 c.c.	64	3	B. coli A.
		34	0	B. coli B.
		111	13	B. coli C.
		34	41	Staphylococci.
		108	0	B. typhosus A.
		77	15	B. typhosus B.
		210	34	B. typhosus C.
August 17th.	0·1 c.c.	100	6	B. coli.
		32	0	B. typhosus.
		19	33	Staphylococci.

On the above dates typhoid bacilli were not found in the urine. The carrier urine did not inhibit the growth of staphylococci, but exerted a marked effect upon the typhoid-coli group.

The evidence of tissue reaction.—The agglutinin content of the blood has been determined at intervals and in periods of about four days each. The method followed was that adopted with the object of obtaining comparative results.[6] Table I. shows the high content at the time of the operation and the slow but gradual fall since the cessation of the special vaccine injections. There is still, however, a considerable agglutinative power. Whether this is due to a "habit," or arises from the stimulation of some latent focus, time alone can tell.

Condition of the bladder and ureter in September, 1913.—On Sept. 23rd a further cystoscopic examination was made by Mr. Walters. "The bladder," he says, "was found to be normal in appearance, no trabeculation was visible, and all signs of inflammation had disappeared from the right ureteric orifice."

This patient has now been under our continuous observation for four and a half years. Like other carriers of the urinary type, she has exhibited "intermittent" periods. These have varied from a few days to a few weeks. One of them, however, extended to eight months (April, 1909, to January, 1910) Since August, 1911, we have not been able to demonstrate the presence of typhoid organisms in the urine. The routine practice during this time has been to centrifugalise 15 c c. of urine and to use the whole of the deposit for enrichment methods prior to plating out. The quantity has been increased to 100–200 c c. whenever the microscopical appearances of the deposit were at all suspicious. Throughout the whole course of the case bacillus coli has been present occasionally. Sometimes these organisms were associated with a small amount of pus: more frequently there was not any evidence of reaction For six months the latter condition has prevailed

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[5] These experiments were carried out by G. S. W.

[6] THE LANCET, Sept. 3rd. 1910, p. 723.

It is perhaps well to state clearly that we do not claim that the typhoid latency has entirely disappeared The agglutination reactions, in the light of earlier appearances, do not permit of such a contention Still the comparatively sudden cessation of the bacillary excretion the concomitant rise in the tissue reaction and the subsequent freedom from symptoms, &c, *lead us to hope that such a result may be* possible We intend to continue to make periodical examinations of the urine and to apply further medication when called for

The observations now recorded have been made possible by the action of the Public Health Committee of the Bristol Corporation in allowing the carrier to remain at the Ham Green fever hospital and by several grants towards the expenses of the laboratory investigations from the Bristol *University Colston Society's Research Fund* The patient herself has displayed a willing and intelligent coöperation throughout

DISEASES DUE TO DEFICIENCIES IN DIET[1]

By F GOWLAND HOPKINS M A CANTAB, M B, D SC LOND, F R S,
FELLOW OF TRINITY COLLEGE AND HONORARY FELLOW OF EMMANUEL COLLEGE CAMBRIDGE.

THE whole trend of modern pathology has made our minds ill prepared to believe in an extraneous deficiency as the prime cause of a specific disease We recognise perforce inherent deficiencies in the body of structure or material, but even these, when they are not anatomical and obvious, we tend *to look upon as for the most part only* predisposing or contributory, the essential and immediate cause of any disease we rather seek in the intrusion of some positive factor, some *res noxia*, be it parasite or poison So completely is this course justified in general that there is doubtless an excuse for the present tendency to seek for such an intruder in cases where there would seem to be little reason to expect its presence, as in certain diseases of nutrition

When disease is ascribed to diet the implication is nearly always that the food is infected or poisonous, or at any rate that some constituent is in such excess as to be deleterious Some malific factor of a positive sort is usually thought to be essential Even the pioneer in the work upon beri-beri, although his labours had given him the essential facts did not escape the effect of what seems a bias Eykman proved that the symptoms of beri beri followed upon the eating of polished rice and showed that the addition of the missing pericarp was curative, but he was constrained to hold, not the simple, and apparently obvious, view that the pericarp contained something necessary for normal metabolism, but that toxins developed in the endosperm, while a constituent of the pericarp was able to *neutralise them*

It is rather remarkable that neither physiologist nor pathologist rendered ready belief to the suggestion that among the dietetic needs of the animal might be organic substances small in amount and easily overlooked by the chemist The suggestion had been in the literature of nutrition experiments for many years but it was neglected Yet since the animal has always been adjusted to live directly or indirectly upon plant tissues, which contain countless substances other than proteins carbohydrates, and fats, there was no *a priori* reason to doubt that physiological evolution might have made some of these substances essential Yet had the fact been definitely established in the nutrition laboratory [illegible] interest *It might* [illegible] ant deficiency in s[illegible] dietaries It required such facts as those which have come to light in connexion with beri beri to establish a wide and practical interest in the matter The case of beri beri is, indeed, a very remarkable one The wide consumption by whole races of a one sided dietary, the localisation of a specific substance in a grain an artificial treatment of that grain exactly adjusted to remove the substance and the occurrence of prominent symptoms as a result of its removal—all these coincidences were necessary *to yield so* striking a proof that a disease may arise from a dietetic deficiency Without them it is unlikely that we should have been engaged in this discussion

Many of us believe that the establishment of this plain case may lead us to discover many others less obvious, and that a new chapter in the subject of animal nutrition is now opening It is only to be hoped that those who help to write the new chapter will display due caution The whole literature concerning the relations of food to health and disease is so flooded with baseless theories with fads and fancies, that it is well to see that no new channel shall be opened to them

I take it that to obtain satisfactory evidence that a specific diet deficiency is directly responsible for a given complex of symptoms it must be shown that the association between the suspected diet and the symptoms is sufficiently frequent, and the occurrence of the symptoms upon normal diet sufficiently rare, to satisfy the statistician, while to obtain rigid proof we must discover what the deficiency really is and prove that removing it results in prevention or cure of the symptoms

In defining our criteria I think it is justifiable to insist *upon the fact that the disease need not be wholly absent* from individuals using normal diets, but only sufficiently rare What is absent from a faulty dietary may be the necessary raw material for some particular metabolic process or some hormone which initiates the process In such a case all individuals consuming the dietary must sooner or later suffer from whatever is involved in the failure of that process But it is clear that in an occasional individual assimilation may be faulty, the apparatus in which the process occurs *may develop faults, or other factors necessary* to its continuance may fail The final result will then resemble that due to the absence of the raw material Our criterion must be this that the disease is absent from or[illegible] al dietary, but common am[illegible] ned to the diet under sus[illegible] the evidence that they have added nothing of significance to their diet is difficult to obtain, for all that we know at present about the subject suggests that very small additions may make all the difference to the results But any considerable degree of individual immunity would be evidence that the etiology of the disease involves some positive factor and not a deficiency alone In the case of beri beri and in that of scurvy we have *evidence which very nearly, if not entirely, satisfies* such criteria There is scarcely any doubt that they are diseases due to deficiencies of diet and to those alone The same cannot perhaps be said of any other specific disease

It is clear that in opening this discussion I can deal only very briefly with individual instances

Concerning beri beri I would like first to say that after reading all the descriptions I could find of cases which are supposed to have occurred under normal dietetic conditions I feel—without pretending to be an expert in matters of diagnosis—that the evidence they offer against the modern view is unimportant It is to be hoped that the question of its cogency will be discussed

The *present position of the beri beri question* is of particular interest because, owing to the brilliant work of Casimir Funk, we have considerable knowledge concerning the nature of the substance of which the deficiency is responsible for the disease We have not final knowledge, as Funk will probably be the first to admit I will venture to say that I myself am more impressed with the objective proof he has given us that the phenomena before us depend upon tangible substances than by the evidence he offers for the actual constitution of what he has so appropriately termed vitamines

In the case of scurvy the probability that a diet deficiency is an essential etiological factor has, of course been long forced upon the attention The remarkable thing is that the probable deficiency should have been so long discussed in terms of known substances It was so easy to prove that none of those suggested—potassium salts, citric acid and the like—had anything to do with the matter, and it was always clear that a substance so unstable and so easily lost from normal foodstuffs had to be looked for amid the unknown.

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[1] Remarks introductory to a discussion in the Section of Therapeutics and Pharmacology of the Royal Society of Medicine on Oct 21st, 1913

The work of Holst and his colleagues upon experimental scurvy, though it has not told us what antiscorbutic substances may be, has thrown much light upon their essential properties. Anyone who lacks conviction can easily learn how great may be the effect of small deficiencies in diet by repeating the observations of Holst and Fröhlich under rigid experimental conditions.

When we consider in particular acute infantile scurvy we find what seems to be the clearest evidence for the influence of a deficiency produced by the artificial treatment of milk, combined with much conflict of evidence as to the degree and kind of treatment which is capable of inducing the deficiency. This is a well-worn question, but there is some justification for saying a word or two about it. In discussing it I must refer again to the work of Holst and Fröhlich.

It should be noted first of all that the symptoms and post-mortem appearances exhibited by animals such as guinea-pigs after some weeks of a grain dietary are most strikingly similar, even in their details, to those found in Barlow's disease. Any one who has troubled to repeat the observations will hardly doubt that the etiology of the two conditions must be essentially the same. The main symptoms may develop in guinea-pigs in advance of any loss of weight, while, when similar animals are fed upon fresh vegetables the symptoms remain absent, even if the diet be insufficient and weight is rapidly lost. The condition is clearly no result of general malnutrition. After it is established giving fresh vegetables or vegetable juices gradually removes the symptoms, but if heated, dried, or long kept such materials lose there curative power. What is especially interesting in connexion with the point I am dealing with is the fact that in different foodstuffs the antiscorbutic substance exhibits varying degrees of stability, which may suggest either that it is not always the same or that varying conditions affect its stability. Fresh milk was shown by Fröhlich to have a definite antiscorbutic influence in guinea-pigs. Milk, in fact, contains both a substance inhibiting the induction of beri-beri symptoms and another which is antiscorbutic. They are not the same, as Funk has pointed out, since their stability towards heat is markedly different.

Now, it would seem from the results got in experimental scurvy that the temperature at which the antiscorbutic substances in milk are destroyed can be sharply defined, for Fröhlich found that after heating to 70° C. the milk used by him retained its preventive power, whereas ten minutes' exposure at 98° completely removed it. It is remarkable, therefore, that there should be such uncertainty concerning the effect of milk sterilisation in the case of infantile scurvy. One point is obvious. When data are collected clinically uncertainty as to the precise dietetic history of individual cases must always be considerable, and it is sure that even the occasional consumption of antiscorbutic substances in small amounts makes a great difference in the result. But we may perhaps find, as Funk suggests, a more important factor of uncertainty in the varying qualities of the milk-supply itself. There are a great number of circumstances which induce variations in the ordinary known constituents of milk, and Funk has produced evidence to show that the vitamine related to beri-beri may vary in amount. It occurs to one that such a special substance as an antiscorbutic might well tend to fail toward the end of a long lactation. Mixed milk-supplies must vary much in the proportion they contain of early lactation and late lactation products as well as varying in other ways. It is not at all impossible that one type of milk may, for one reason or another, withstand, in respect of its antiscorbutic power, more severe treatment than another.

I have dwelt a little upon this familiar subject for two reasons. First, because it illustrates certain difficulties inherent in the study of deficiency diseases; and secondly, because it seems to me that recently acquired facts suggest that, in spite of all that has been done, there is yet room for further investigations concerning the relation between milk sterilisation and infantile scurvy; investigations which must be made under conditions more carefully standardised than before. The same may be said with regard to rickets. Even those who are convinced that rickets takes origin from a dietetic deficiency have to admit that it is difficult to find a common factor among the dietaries held to be responsible for the condition. But now that we know how small in amount and how unstable in character certain essentials of food may be, our inquiries into the dietetic history of patients should become more detailed than before, and carried out perhaps with more faith in their bearings.

I should like to touch next upon pellagra, but time permits only the briefest reference. It once seemed probable that this disease might prove to be due to a diet deficiency quite different in nature from those we have hitherto considered. Maize is deficient in the aromatic amino-acid tryptophane, and a certain minimum supply of tryptophane is undoubtedly necessary to life. It would have been interesting to learn that a specific disease might arise from lack of an amino acid, and long ago, having shared in the discovery of tryptophane, I took a special interest in the etiology of pellagra, and performed a good many inconclusive, and therefore unpublished, feeding experiments. Dr. F. M. Sandwith has lately referred again to the possibility of this deficiency playing its part. But the recent demonstration, so largely due to Dr. L. W. Sambon, that pellagra occurs with some frequency in this country, and in individuals who have certainly not relied upon Indian corn as a basal diet, seems to put the suggestion out of court, as well as the view, much more widely held, that the disease is due to infected maize. If Dr. Sambon is right as to its probable frequency in this country the remark I made earlier with regard to the possibility of deficiency diseases sometimes occurring upon a normal diet can have no bearing here, and we shall have to admit that pellagra is not related to diet.

I propose to close with a brief reference to experiments of my own which relate to the effect of diet deficiencies upon growth. They have no very real relation to the present discussion, and I have already on more than one occasion made their results public. But I quote them now because they offer further conclusive proof that the removal of substances, minute in amount and of unknown nature, can produce an extraordinarily marked effect upon the physiological properties of a dietary. Upon a diet consisting of purified materials (one essential in the process of purification being thorough extraction with alcohol) young rats absolutely cease to grow, even when their consumption of food is quantitatively normal. On the other hand, if what is removed by alcohol be returned, or if very minute amounts of milk or fresh tissue extracts be added, the animals grow quite normally on the same basal dietary. I quote the results with special confidence now, because during a prolonged endeavour to discover the nature of the substances concerned, an endeavour which has continued until now, I have accumulated a great amount of experimental material. On the properly prepared diet not one rat out of many scores has ever continued to grow for more than a few days. Rats are so little prone to scurvy or to anything resembling the symptoms of beri-beri that they serve especially well to demonstrate this growth failure in a pure form.

Being in possession of a diet which, while supporting the animal for considerable periods, does not permit of growth, one was naturally tempted to try its effect upon the rate of development of cancer. Owing to the kindness of Dr. E. F. Bashford in supplying me with material I was first able some 18 months ago to make observations upon a strain of Jensen's rat sarcoma. All the rats to be used for the experiment were injected at the same time with a standard dose of tumour and fed for a few days upon a normal diet. They were then divided, without any selection, into two groups. One group was fed upon bread and milk, the other upon the purified artificial dietary. Otherwise the conditions were precisely the same. At a given period all the animals were simultaneously killed and their tumours dissected and weighed. Thirty-two rats upon bread and milk showed an average tumour weight of 14·5 grm.; 28 rats upon the artificial dietary gave an average weight of 3·9 grm. In the absence from diet of the substances which promote the growth of normal tissue the sarcoma grew at only one-fourth of its normal rate. Such a result has perhaps no more than an academic importance, but it shows that a neoplasm, like a normal tissue, requires for its growth certain at present unknown substances, which it acquires less readily from the tissues than from the food-supply of its host.

Cambridge.

SENSITISED VIRUS VACCINATION IN GONORRHŒA, AND ESPECIALLY ITS COMPLICATIONS.

BY LOUIS CRUVEILHIER, M.D.

THE method of sensitised virus vaccinations devised in 1902 by Professor Besredka[1] was first applied by me[2] to the treatment of gonorrhœa, and especially of its complications. We tried the method in several cases of prostatitis, and the complications of gonorrhœa which we systematically treated by this method were epididymitis, metro-salpingitis, and gonorrhœal rheumatism.

We thought it would be specially interesting to use Besredka's sensitised virus vaccination method for the treatment of *epididymitis*, which of all complications resulting from gonorrhœa is undoubtedly the most frequent. Most of the patients we have treated had been sent to us by our teacher, Dr. Castaigne, and our friends, Dr. Fouquet and Dr. Partnier. All our patients promised to use no other treatment; we advised them, however, to wear a well-made suspensory bandage.

In one case the pain was so acute as to cause the patient to faint, and in other cases the pain radiated towards the heart, the thigh, the loins, the gluteal region or the abdomen, yet it was very soon influenced by the treatment, so that most of our patients who complained of sleeplessness slept well on the very night following the injection. However acute the pain may have been in all the cases which came under our notice it usually disappeared within 12 hours after the first injection, sometimes after 24 hours, and we never observed it 48 hours after beginning the treatment, so that on the next day our patients experienced no more difficulty in standing or walking. In this way some of them were able to resume their work, and one of our patients, who delivered articles at houses, had to interrupt his work during 35 hours only.

The symptoms of local inflammation, such as redness, heat, and tension of the skin over the testicle, decreased and then disappeared together with the pain. In four cases after the second injection only, but more usually after the third—i.e., from five to eight days after commencing the treatment—we noticed the entire disappearance of tenderness on palpation of the epididymis. This organ recovered its normal sensitiveness as well as its usual suppleness and size. As a rule, however, we noticed the persistence of a painless nodule occupying the end of the epididymis. In one case a nodule was still perceptible three weeks, and in another case one month, after commencing the treatment.

In all our patients, none of whom was under the necessity of remaining in bed, all being able to come to our laboratory every morning to be examined or treated, we had the satisfaction of seeing that the various general symptoms usually accompanying epididymitis disappeared within a short time. As our patients were able to sleep and had ceased to suffer their appetite returned, and after two or three days' treatment they no longer presented the sickly, thin, and depressed aspect habitual
and epididymitis. The
inflammatory process
disappeared in the course of 24 hours after beginning treatment. Each of our patients had two or three injections administered at intervals of 48 hours. We have not a single relapse to report amongst the various cases which came to our notice.

We have tried the method of sensitised virus vaccination in the treatment of *utero-annexal complications* resulting from gonorrhœa, which so frequently necessitate serious surgical operations. In all the cases examined the results obtained were very good. Usually the very first injection brought about a considerable change for the better and lessened the discharge; after the second, and sometimes after the third, injection the abdomen recovered its suppleness and ceased to be painful on palpation, so that the p

could wear corsets again. The general health soon became excellent, and on examination of the uterus it was found entirely free from congestion, the annexa were supple, and there was only a slight glairy oozing in which it was not possible to discover the presence of the gonococcus. In cases of metro-salpingitis with effusion into the tube the satisfactory result of the method was not less evident, and a fortnight or three weeks after beginning the treatment the swelling noticed at the site of the tube disappeared, and usually only a very slight local sensibility was noticeable at the point of the insertion of the tube into the uterus. The method of sensitised virus vaccination appears to act even in cases of metro-salpingitis of long standing, and we obtained a complete cessation of all painful symptoms as well as of the discharge in the case of a woman whose infection dated from the time of her marriage nine years previously.

We thought it reasonable to try sensitised virus vaccination in *acute gonorrhœal rheumatism*. In cases of gonorrhœal rheumatism with acute pain which we had to treat the action of virus vaccination was very rapid; after four or five injections the patients usually desired to stop the treatment, as they no longer felt any pain or inconvenience on movement. In the case of patients who consented to return a fortnight or a month after the last injection in order to be examined by us we never found that any painful symptoms had reappeared.

In cases of gonorrhœal rheumatism taking the form of hydrarthrosis on the day following the first injection the patients expressed a manifest abatement of pain. After five or six injections a careful examination showed that the joint had become perfectly painless. The patient could bend his joint quite normally and execute every movement with perfect ease.

The form of acute arthritis is certainly the most common form of gonorrhœal rheumatism; now in every case we treated the results obtained were very good. This was specially so in the case of a patient who had been sent to us by Dr. Ravaut, and whom we treated with the assistance of Dr. Marato.

The patient last March became aware of a urethral discharge, as well as very painful symptoms of sciatica which soon obliged him to stay in bed. Notwithstanding the administration of aspirin,

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mo
such rapid progress that b spine
was painful; in the loins ooting
pains that he was forced to was it
tried to give some relief by after-
wards with antipyrin, by hot air
applications, and by injecti blood
drawn from the arm. By were
attacked also.

On June 11th the first sensitised virus vaccination was done, and at the same time every other drug and local application were given up by the patient. Soon after the injection the pain in the spine had considerably abated. On the 13th a second injection was given, followed by a somewhat violent reaction, which, however, brought about a
symptoms, so that it was
the beginning of his
third injection was
knee completely dis-
ven. From that time
oine; he could sit up,
it help. The nights
stairs; but the injec-

In the opinion of all medical men *chronic gonorrhœal rheumatism* is particularly refractory to all treatment, so that it has been said that "its real treatment must above all be preventive, consisting in the treatment of gonococcic arthritis during its acute stage in order *to prevent it* becoming chronic." Now we thought *that the method* of sensitised virus vaccination might be of great use in this form of disease. It was found *so in the following* case.

The patient, who was sent to us by Professor Dopter, had for more than a year been suffering from pains in the joints of the right foot, knee, hip, and elbow, whilst on the left side the pain was in the heel, the knee and the wrist. The pain, which was acute and
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[1] Besredka: Comptes Rendus de l'Académie des Science vol. cxxxiv., p. 1330.

[2] Louis Cruveilhier: Comptes Rendus de la Société de Jan. 4th, April 19th, June 28th, July 5th and 12th, 1913; Klinische Wochenschrift, August 11th, 1901.

On April 29th Professor Dopter asked us to apply our method and we gave [illegible] xt day the patient felt decidedly better. [illegible] on May 1st, 6th, 8th, 12th, and 14th. A [illegible] the painful symptoms, in the heel especially, was noted. The injections were repeated on the 16th, 21st, and 24th. Though not entirely cured the patient was considerably better, and on June 2nd the pain was no longer perceptible except in two toes of the right foot. The lameness is better and walking is becoming more and more easy, so that a complete recovery can be expected after a few more injections.

Finally, we have had quite recently the opportunity of treating four patients who had suffered for four, five, nine, and ten years respectively from pains in the joints which seemed to be refractory to all the medicines, such as salicylate and aspirin, usually employed against rheumatism. As these patients had formerly suffered from gonorrhœa, we thought it advisable to try the method of sensitised virus vaccination, and after two, three, and four injections we had the satisfaction of noticing either a considerable change for the better or an entire disappearance of the articular pains.

Experiences of this kind have led us to think that a large number of arthritic diseases, attributed to rheumatism, belong to the domain of gonococcic infection, and that in all cases of rheumatism where the usual treatment does not give any results, and especially when a gonococcic origin can be surmised or traced, it is well to have recourse to sensitised antigonococcic virus vaccination.

The action of Besredka's sensitised virus vaccination has been more especially observed by us in the course of complications resulting from gonorrhœal infection, but it is nevertheless true that we have obtained very good results in the treatment of *acute* and even *chronic urethritis*.

In cases of acute urethritis where our help was sought we always obtained most encouraging results. The pains and local inflammation disappeared in most cases after the second injection, and at the same time the discharge grew less abundant, and also very rapidly lost its yellowish-green colour and its thickness, and took the aspect and fluidity of soapy water. The time of its disappearance was different in various cases, but after an interval of four weeks its disappearance was usually complete. None of the cases we treated showed any complication whatever.

Chronic urethritis appeared to us to be as beneficially influenced by our method of sensitised virus vaccination as the acute form of this disease. From the very first injection we always noticed a rapid decrease of secretion as well as a notable change in its appearance, for it soon became transparent like glycerine. All other disorders imputable to former prostatic infections, such as a feeling of heaviness near the anus, perineal pains, as well as pain in the region of the sacrum, usually disappeared after the first injection.

Remarks.—We have not yet come to any final conclusions concerning the various modifications which, in our opinion, ought to be made in Besredka's method of sensitised virus vaccination in order to adapt it to the treatment of gonorrhœa. Yet we are able to state that, as has been proved by the experiments of Metchnikoff and Besredka[3] in antityphoid vaccination, it is always preferable to inject living sensitised virus. In a certain number of cases, when we had absolutely failed whilst persisting in using dead sensitised virus, we obtained excellent results from the use of living sensitised virus The serum which we employed in our operations was taken from a she-goat to which we had successfully applied Besredka's subintrant injections of the veins in order to render it immune.[4] We considered that it was not advisable to take from the patient himself the gonococci to be sensitised, and we took them from the cultures which we had had in stock for several months, and several samples of which were obtained by the kindness of Messrs. Maras and Forgeaud. Our injections were principally made in the subcutaneous cellular tissue and were repeated at intervals varying according to the different cases. None of the patients who had recourse to our help showed any sign of severe general reaction. In some cases there was a slight rise of temperature during the hours which followed the injection. Sometimes we also noticed at the site of the injection some erythema accompanied by a pain which never lasted longer than 48 hours.

Paris.

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[3] Besredka: Annales de l'Institut Pasteur, 1901. Metchnikoff and Besredka: Ibid., 1911.

[4] Louis Cruveilhier: Comptes Rendus de la Société de Biologie, July 2nd, 1910.

SOME ADDITIONAL EXPERIENCES OF NERVE SURGERY.

BY A. H. TUBBY, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE WESTMINSTER AND THE ROYAL NATIONAL ORTHOPÆDIC HOSPITALS, ETC.

A CONTRIBUTION on "Nerve Surgery" was made by me to the Sixteenth International Medical Congress, held in Budapest, and was published in THE LANCET of Sept. 4th, 1909, p. 706. An opportunity is now taken of tracing the further progress of the cases then referred to, and of adding new ones.

The operation for facial paralysis by facio-hypoglossal anastomosis has proved to be a permanent and almost complete success. The patient was shown at the Royal Society of Medicine in 1909, and it was then difficult to distinguish which side of the face had been affected, except for the fact that there was, in repose, a very slight droop of the left angle of the mouth. All the movements on that side of the face were perfect, there was a total absence of associated movements of the tongue and face, and the tongue was protruded directly and without any deviation.

Of the cases of operation on the brachial plexus[1] one was for Erb's or the upper arm type of infantile paralysis, where the anterior branch of the fifth cervical nerve was grafted into the sixth, with gradual recovery of power in the biceps and partial recovery in the deltoid,[2] the fibres to these muscles on the outer and upper part of the fifth nerve cord being split off and inserted into the sixth nerve cord. Improvement took place in the deltoid in so far that three years after the operation the arm could be abducted 8 inches from the side, when the scapula was held. A better result would have been obtained if the significance of a paralytic subluxation of the shoulder had been recognised and the looseness of the capsule rectified as a preliminary step.

A case of severe laceration of the brachial plexus and complete paralysis of the right arm was also reported upon.[3] Here there was absolute and complete paralysis of the whole of the muscular and sensory area supplied by the brachial plexus. All the nerve roots were found to have been torn apart, and were matted together by fibrous tissue; scar tissue also intervened between the proximal and distal segments of the nerves. The scar tissue was excised and the proximal and distal segments of the plexus were sutured together *en masse*. Five years afterwards—that is, in March, 1911—the recovery of motor power had extended to the biceps, brachialis anticus, and the deltoid. The patient could flex the forearm fully and abduct the upper arm to a right angle, sensation had returned over the distribution of the upper external cutaneous branch of the musculo-spiral nerve and over the internal cutaneous branch of that nerve, and recovery is still slowly progressing.

Neuroplasty on the popliteal nerves, after anterior poliomyelitis, has not been by any means so successful, and an explanation may be found in Warrington and Murray's hypothesis[4]—viz., that, "there may be sufficient nerve cells left to supply one group of muscles, but insufficient to supply two"; or, to put it in another way, there are enough cells to supply the internal popliteal nerve, but not the external as well, and *vice versâ*. In one case where the distal part of the external popliteal nerve was grafted into the internal no result followed, perhaps due to the fact that there was also some degeneration in the internal trunk, or that the remaining nerve cells were insufficient.[5]

In a second case, one of paralytic equino-varus, where the distal part of the external popliteal was grafted into the internal popliteal nerve, no sign of recovery was observed during two years, and then the area of the previous operation was exposed. It was then found that the grafted portion of the external popliteal nerve was evidently undergoing regeneration, as shown by the increasing size of its distal part as compared with the free proximal part, and by its whiteness, roundness, and firmness. It was further noted that direct stimulation of the distal or grafted portion of

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[1] A. H. Tubby. Deformities, second edition, p. 747.

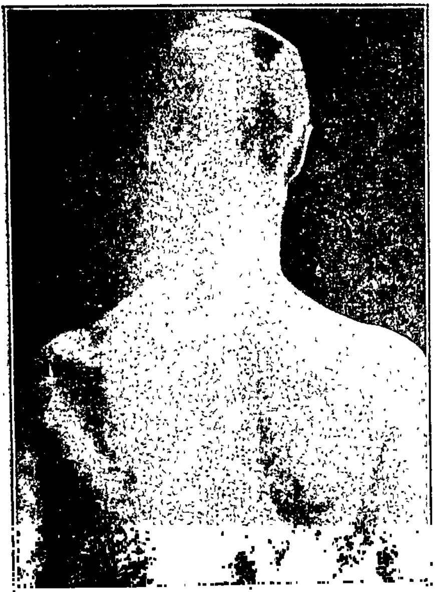
[2] Ibid., p. 676.

[3] Ibid., p. 760.

[4] Nerve Anastomosis in Infantile Palsy, THE LANCET, April 2nd, 1910, p. 912.

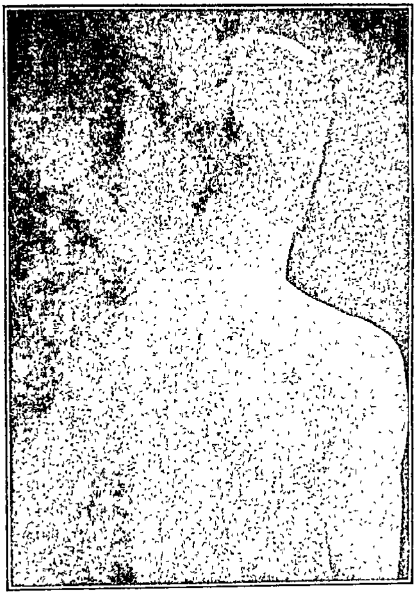
[5] A. H. Tubby · Loc. cit.

FIG. 1.



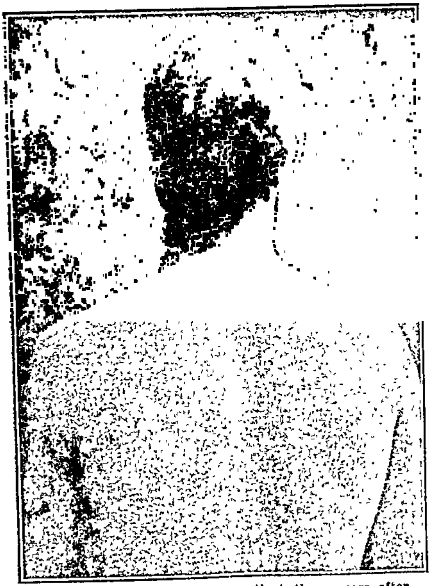
To illustrate a case of paralysis of the left suprascapular nerve before operation. Note the hollows above and below the spine of the scapula.

FIG. 2.



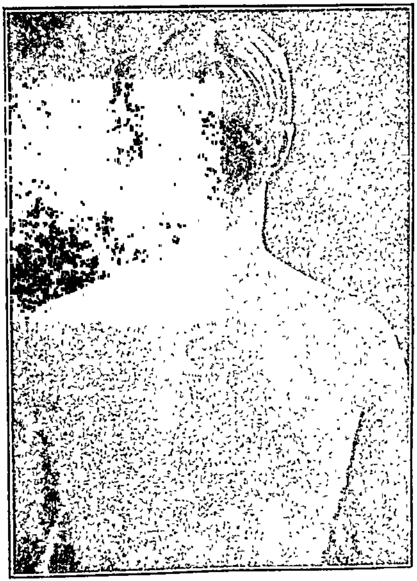
Another view of the patient's condition before operation.

FIG. 3.



Showing the condition of the patient three years after operation on the left suprascapular nerve. Note that the suprascapular fossa has entirely filled up and the infrascapular nearly so

FIG. 4.



Another view of the same patient three years after operation.

he external popliteal nerve caused contraction of the anterior nd external leg muscles. Here the outlook may be described s distinctly hopeful.

One example of talipes calcaneus, where the nerves to the oleus and gastrocnemius were separated from the internal opliteal trunk and grafted into the external, showed partial ecovery during a term of three years, but the condition has been stationary for the next three years; that is, whilst the patient has recovered sufficient voluntary power to plantar-flex the foot when it is off the ground, yet when seen in July, 1913, the *improvement in muscular strength* had been rrested. And a similar remark may be made of another case of talipes calcaneus where the range of ankle movements became almost normal, without, however, there being sufficient strength to lift the weight of the body on the toes of the affected foot alone. Such is the record up to date of cases of nerve-anastomosis and neuroplasty reported previously.

We must now pass on to more recent cases.

CASE 1. *Traumatic lesion of the brachial plexus; operation; nearly complete recovery.*—A male was admitted to Westminster Hospital on Sept. 9th, 1909, with a history that 12 months ago he had been knocked

An exploratory operation was therefore done on May 31st with the assistance of Mr. E. R. Carling and Mr. H. F. Strickland, Mr. Scott-T[illegible]

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Four Cases of Injury of the Ulnar Nerve and of its Branches.

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Deductions.

1. Brachial plexus lesions, if traumatic, are hopeful, if the loss of power has not existed for years. If due to other causes the outlook is not so good. However, we should not despair of a case recovering, even five years after the operation, provided that the improvement has set in within three months after the operation and is continuous.

2. [illegible] ntile paralysis has proved [illegible] previously.

3. Injuries about the wrist should never be sewn up until the continuity of the nerves has been ascertained, and until all the electrical reactions have been tested.

4. If the lesion of the nerve is compression by a scar the outlook after operation is most hopeful. [illegible] the nerve has

been severed primary operation is very hopeful, but secondary suture rarely permits a complete recovery.

5. No case, however, of traumatic nerve lesion should be regarded as hopeless, in view of the achievements of neuroplasty.

Finally, I should like to make a note on a painful condition connected with enlargement of the head of the first metatarsal bone, and I beg to refer to those cases where there is not only tenderness on the inner side of the joint, but also severe pain on its outer side and in the first interdigital space. This is a condition special to those cases where there is lipping of the joint surfaces and a deposit of osteophytes, and the cause appears to me to be as follows: On dissecting the part there will frequently be found a communicating branch passing from the digital trunk of the anterior tibial nerve to the corresponding nerve on the plantar surface. This communicating branch arises opposite the most prominent part of the head of the bone and passes immediately downwards over the capsule of the joint, to which in inflammatory cases it is often adherent, and it joins the digital branch of the internal plantar to the outer side of the great toe. It is easy to see how painful compression may arise, and the remedy I have adopted is simple—i.e., to dissect away the communicating branch and remove the osteophytes.

Harley-street, W.

PUBLIC MEASURES FOR THE PREVENTION OF TUBERCULOSIS.[1]

BY NATHAN RAW, M.D. DURH., F.R.C.S. EDIN., M.R.C.P. LOND.,

PHYSICIAN TO MILL-ROAD INFIRMARY, LIVERPOOL; MEMBER OF THE INTERNATIONAL COMMITTEE ON TUBERCULOSIS.

THE spread of tuberculosis in any community can only be efficiently and successfully checked by the adoption of public measures which will form a coördinated scheme for attack on the disease. Tuberculosis being to a large extent a disease of ignorance and misery, our efforts to prevent it must be directed towards the social conditions and insanitary surroundings of the poor. It is essential that a very close coöperation must be established between voluntary action and Government and municipal efforts in order that the spread of the disease can be controlled and proper means provided for the treatment and cure of those afflicted.

The general measures for the control of tuberculosis will be somewhat as follows: (1) Voluntary and compulsory notification; (2) removal of affected children from school and home; (3) treatment of children in special children's sanatoriums; (4) education of the general public with regard to the disease; (5) provision of municipal dispensaries in every community; (6) provision of sanatoriums for the cure of early cases; (7) institutions for advanced cases; (8) home training and supervision amongst the working classes; (9) rigorous supervision of the milk supply; (10) extermination of tuberculosis amongst cattle; (11) assistance to family in the absence of the breadwinner; and (12) provision of suitable employment to cured cases and those in whom the disease is arrested.

Voluntary and compulsory notification.—Tuberculosis being essentially an infectious disease it is desirable that a complete notification of all cases should be made to the officials who are responsible for the public health, so that they may be informed as accurately as possible of the existence of every person infected with the disease.

In England voluntary notification has been superseded by compulsory notification, at least so far as pulmonary tuberculosis is concerned, and although it is open to question whether or not it is desirable to notify the private patients of a medical man, yet if a certain amount of discretion is exercised there can be no doubt but that compulsory notification is in the general interest of the community, although it may press hardly on individual cases. A recent order from the Local Government Board, in London, compels the notification of every inmate of a public institution suffering from any form of tuberculosis. This notification must be made on special forms by the physician attending the case, and for which he receives a small fee of 1*s.* As soon as notification is received by the health officer a visit is made to the home of the patient, and a careful inquiry as to his personal condition and surroundings is made; if, in the opinion of the health officer, his home surroundings are such as to make it unsafe for him to remain power is given for the patient to be removed to some institution, but this power is very rarely exercised.

In large cities and habitations where a great amount of overcrowding exists, the treatment of the advanced case of tuberculosis is of supreme importance. If he is allowed to live in the same dwelling and share the same room as his wife and children, it will almost certainly happen that one or all of his family will become infected with the disease, and therefore it is absolutely necessary that he should be removed to some safer surroundings unless he is able to have a room to himself and to look after his own personal cleanliness. It is of no use to keep a patient in a sanatorium for six months and then discharge him as incurable, to spend the rest of his life in an overcrowded cottage where he may spread the infection to a new generation. Provision ought to be made, either by Govenment or by municipality, for the detention and comfortable treatment of all cases of incurable tuberculosis. I am not in favour of exercising compulsory powers of removal from a man's own home, but if it is for the protection of healthy people, then removal ought to be made compulsory; but I think it will be some time before public opinion is ripe for such measures.

The health authority will disinfect and clean the clothing and bedding of any notified case, and then will also carefully disinfect the house in which he has lived. Very often the patients complain of this attention to their homes and their clothing, but it is essential that it should be done for the protection of the future residents of the house. It is also the practice to notify to the health authorities any change of address of a tuberculous person, so that they may keep in touch with any house in which he may live.

On the whole, compulsory notification will prove useful in the fight against the disease, but it should only be used in a wise and gentle manner, as otherwise it is liable to cause personal discomfort and may have the effect of ostracising the patient from society. If it is pushed too far it may also have the effect of preventing him from earning his livelihood by reason of his fellow-workers having a fear of infection in the workshop or factory. Although many countries are still doubtful as to the wisdom of enforcing compulsory notification, yet from the point of view of suppression of an infectious disease it cannot be denied that with care and consideration the compulsory notification of tuberculosis is bound to do good.

Removal of affected children from school and home.—The medical inspection of school children is now thorough and complete in Great Britain, as in many other countries, with the result that a fair number of children of school age are recognised as suffering from pulmonary tuberculosis, although this number is not so large as one might be inclined to expect. Pulmonary tuberculosis is comparatively uncommon amongst school children, whilst the other forms of tuberculosis are more often seen. When a child is recognised as suffering from open tuberculosis it should at once be removed from school, mainly for the protection of the other children, as it is possible for one child in an overcrowded and badly ventilated schoolroom to infect several of its fellows. In the case of a family the infected child should invariably, if possible, be provided with separate accommodation, or, better still, removed from the family circle until recovery has taken place, but on no account should the child sleep with any other children or even with its parents.

Treatment of children in special children's sanatoriums.—The provision of special sanatoriums for children is, I am glad to say, in England making steady and rapid progress; many of these sanatoriums have been provided by the education authorities, with excellent results. It has been found undesirable for children to be treated in a sanatorium for adults; hence it is necessary to provide special institutions for them. The children's sanatorium has the double advantage of continuing the education of the child and at the same time providing the means of cure of the disease. In Germany, where the climate is more suitable for this treatment, a great many of such sanatoriums have been provided, and in Great Britain much success has attended their adoption.

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[1] Being a report presented at the Eleventh International Anti-Tuberculosis Conference, Berlin, Oct. 22nd to 25th, 1913.

Education of the general public with regard to the disease.—The main point in the campaign against tuberculosis must be in the education of the general public with regard to the disease. The National Association for the Prevention of Consumption aims almost entirely at this part of the work; it has numerous branches in most of the large cities and towns of the British Isles, where the work of education of the public is steadily pressed forward. A travelling exhibition, provided with models of everything necessary in the treatment of the disease, is constantly moving round from place to place, and demonstrations are given by competent teachers on the management and nursing of children, and the prevention of tuberculosis, in which popular lectures are given each evening by experts. In this way an enormous amount of information is steadily disseminated. Education of school children is constantly going on, and the teachers themselves are instructed in the methods of prevention and treatment of tuberculosis. Literature is scattered broadcast throughout the land, and illustrated posters are affixed in every town, so that every possible means is used to convey to the public the information so much required.

Provision of municipal dispensaries in every community.—The public dispensary has been proved to be of value in the treatment of poor persons afflicted with tuberculosis, and it is suggested that in every town the health authority should provide the municipal dispensaries where the poor may receive attention, and where the most careful inquiry can be made with regard to their families. The house of every infected person is carefully inspected and the accommodation noted. Advice as to nursing, isolation, and treatment is given in every case, and where necessary rigorous action is taken by the health inspectors. In this way it is hoped that every affected person may have the opportunity of receiving advice and treatment, together with assistance to his family if necessary. The National Insurance Act in England will quite revolutionise our present methods in dealing with tuberculosis. Every insured person is entitled to special treatment and if necessary to sanatorium benefit. In the case of anyone transferred to a sanatorium the dependents of the family will receive 10*s.* per week for six months, and if necessary further assistance will be given to the affected person. This is a great step in advance, and will undoubtedly induce a great many of the working class to accept treatment in a sanatorium, knowing that their family will be provided for in the meantime.

Provision of sanatoriums for the cure of early cases.—The provision of sanatoriums for treatment and cure is of vital necessity. Tuberculosis in its early stages responds admirably to sanatorium treatment, and it must be our aim in the future to obtain the cases at the earliest possible moment, so that they receive special treatment with a view to cure, and also receive special education and instruction with regard to their manner of living in the future. The sanatorium itself should be reserved for early cases of tuberculosis—it cannot be expected to do much good in advanced cases and being of a very costly character its resources should be reserved for hopeful and curative patients. In the national insurance scheme such sanatoriums will be erected in every locality, and every suitable case will have the opportunity of cure. The results of sanatorium treatment have been excellent, and it is hoped that they will be still further improved as a better selection of patients is made.

Institutions for advanced cases—In my opinion the most potent factor in the spread of tuberculosis is the advanced case who is not under proper supervision. The man in the final stages of consumption, who is pouring out millions of bacilli from his lungs each day and who has not physical strength to look after himself or take ordinary care, is a serious danger to the community These are the people who require the most rigorous supervision and who as a rule are neglected by everybody. The late Professor Koch often said that he attributed the steady decrease in tuberculosis in England to the fact that such a large number of advanced cases of tuberculosis were isolated and treated in the Poor-law institutions of Great Britain; this statement is undoubtedly true, and the very fact that so many were constantly segregated must have had a great influence in the decline of consumption. Special institutions should be provided for advanced cases where they may be made comfortable and happy to the end, but it is doubtful if it would be wise at present to enforce isolation of such cases, although I have no doubt that in the future this will have to be done.

Home training and supervision amongst the working classes.—Tuberculosis being a disease of long standing it is necessary that those who suffer from it must be instructed in the manner of living at home. It is essential that the working man or working woman must attend to his daily duties, in many cases for years, whilst he is suffering from it; hence if he is to live at home with safety he must know how to protect the other members of his family. There is a strong prejudice in England against the working man using a sputum flask in the workshop or factory, so that there is every temptation for him to conceal the disease. It is not desirable, however, that a workman should be treated as a leper because he happens to be infected with tuberculosis, otherwise he is in danger of losing his ordinary place in the labour world and becoming a burden on the community. It is much more necessary that he should be instructed how to take care of his expectoration, and how to prevent the slightest tendency of infection to the healthy members of the community; and if this is done there is no reason whatever why he should not attend to his daily work and associate himself in ordinary social life There is a great danger of frightening co [illegible] fee [illegible] pu [illegible] munity, and of urgent importance as the staple food of infants and children. Notwithstanding what has been said by many experts in different countries there is no doubt whatever but that a large amount of tuberculosis is conveyed to children by means of infected milk and food. Tuberculosis is very common amongst dairy cows in Great Britain and Ireland—in fact, about 20 per cent. of cattle are infected with the disease at the present time. It is shown, however, that the cows with tuberculosis of the udder are by far the most dangerous, hence only about 2 per cent. of the infected cows are highly dangerous to children. It is the practice, however, in this country to mix all the milk from a herd of cows, so that one cow with disease of the udder may contaminate the whole milk-supply. Whilst consumption is steadily decreasing in this country the same cannot be said for tuberculosis in children. A very large number of the lesions occurring in children are the result of infection from tuberculous animals in the form of food, and every possible step must be taken to prevent such contamination of the food-supply.

Legislation has recently been introduced in England with a view of establishing a pure milk-supply, and it is proposed that all persons offering milk for sale should be registered and their premises periodically inspected. Every cow supplying milk will be under rigorous inspection by the health authorities, and compensation will be paid to the owner of any cow which is found to be suffering from tuberculosis. In the meantime the public are advised to sterilise the milk before being given to infants, with a view to destroying tubercle bacilli and other organisms. In Liverpool a great amount of special care has been taken by the health authority in safeguarding the milk-supply. Special powers have been obtained to inspect the source of all milk coming into the city, and the result has been that I have myself observed a steady decrease in hospital of children suffering from tuberculosis.

The amount of disease which is conveyed from animals to man seems to vary in different countries. In Scotland there is more than in England, whilst in the British Isles there appears to be more tuberculosis conveyed by milk than on the Continent, where it is almost the universal practice to pasteurise the milk before drinking. Whether this be so or not, we are all agreed that in the campaign against tuberculosis every effort must be made to eradicate the disease from dairy cows. This, I admit, is a very costly undertaking, and millions of pounds would be required to do it effectively in England alone. The scheme suggested by Bang, in Copenhagen, has had excellent results, and a similar process should be gradually introduced into every country.

Assistance to family in the absence of the bread-winner.—The question of providing assistance to the family in the absence of the bread-winner during his stay in sanatorium has been to a great extent solved by the provision in the National Insurance Act already referred to, but this work requires further extension, and a central fund ought to be provided in every community for the special purpose of looking after the family when the parent is undergoing cure, otherwise it is impossible to expect him to give himself up for treatment for any prolonged time.

Provision of suitable employment in cured cases, and those in whom the disease is arrested.—The question of providing suitable employment for cured cases, and for those in whom disease is arrested, is one of great difficulty, although of immense importance. A very great many private employers are now giving such workers out-of-door, easy employment, as it is only in this way that they can be expected to remain well and fight the battle of life. We wish to extend such a practice in every country, and appeal confidently to those employers of labour who have the opportunity of making such provision for their workers.

By adopting a combination of measures such as those enumerated upon, we can confidently hope slowly but surely to exterminate the disease which ought not to be in our midst, but which is provoking such an amount of havoc, misery, and loss of human life.

Liverpool.

THE BACTERIOLOGICAL DIAGNOSIS OF A CASE OF PLAGUE.

BY W. J. TULLOCH, M.B., CH.B. ST. AND.

(From the Bacteriological Laboratory, College of Medicine, Newcastle-on-Tyne.)

THE following case is of interest in that it illustrates some of the many difficulties that exist in recognising cases of plague when they arrive at uninfected ports.

A boy 16 years of age, an apprentice on a grain ship that arrived in the Tyne from Rosario (River Plate), was taken ill on Sept. 10th, 1912. He was seen on the following day by Dr. W. E Harker, medical officer of the Tyne port sanitary authority, who found him suffering from an indefinite febrile condition with high temperature, and it was noticed that he had a slightly enlarged and painful gland at the angle of the left jaw. In view of the fact that another apprentice had died at a continental port a few days previously from a condition which, as a result of post-mortem examination, was diagnosed as enteric fever, it was thought very likely that this boy had the same disease. The gland steadily subsided, but on the third day of illness signs of basal pneumonia appeared, and three days later the boy died, the cause of death at the time being uncertain.

At the post-mortem examination, made two days after the death of the patient, no gross pathological changes were noted beyond basal consolidation of the lungs, slight pleuritis, and some enlargement of the spleen.

Bacteriological examination.—At the first clinical examination material was taken for bacteriological investigation by puncturing the enlarged gland, and blood was obtained for carrying out an agglutination test with B. typhosus (Sept. 11th) The agglutination test was made at once, and it was found that the serum agglutinated B. typhosus in a dilution of 1/100 in one hour at 37° C. (The bacillus employed agglutinates with most typhoid sera in dilution of 1/100, while a certain number of sera agglutinate it in 1/500 dilution.) The material obtained from the gland—about 0·5 c.c. of fluid—was spread over the surface of three small agar tubes. After 48 hours' incubation at 37° C. four small colonies appeared. These consisted of organisms having the morphological and staining characteristics of B. pestis. Microscopical examination of the fluid had failed to show the presence of organisms.

The above findings indicated a further examination of the case by means of blood culture for the following reasons: (1) That the serum of the patient agglutinated B. typhosus fairly actively; (2) that the apprentice who had died at the continental port and who was said to have succumbed to enteric fever had only been ill five days; and (3) "a severe septicæmia may be present at a comparatively early stage of the disease"—plague (Indian Plague Commission).[1] It was important then in the present case to examine the blood by cultural methods—firstly, to exclude enteric fever, and secondly, in the event of the case being one of pneumonic or septicæmic plague, positive evidence of the nature of the infection would be rapidly and certainly obtained. Fifteen c.c. of blood were obtained by venipuncture of the median cephalic and run directly into 100 c.c. of broth. After 48 hours' incubation at 37° C. a few chains of Gram-negative polar-staining cocco-bacilli were noted in films made from the blood culture. By subculture on agar a plague-like growth was obtained.

The bacteriological examination of the organisms obtained from the gland and from the blood presented no difficulty. The growth on agar and other media and the biochemical reactions were typical of B. pestis, as also were the results of animal inoculation.

Three guinea-pigs were inoculated (rats could not be obtained at the moment). (*a*) One animal was inoculated in the flank subcutaneously with 3 c.mm. of an emulsion of a 24 hours agar culture suspended in 3 c.c. of saline. The animal died on the sixth day, and on post-mortem examination lesions typical of plague were noted—a mass of hæmorrhagic and necrotic tissue at the site of inoculation, injection and enlargement of the glands, and marked enlargement of the spleen, which was filled with hæmorrhagic and necrotic nodules. (*b*) A second animal inoculated with a similar quantity of the 48-hour blood culture died after two days, the examination revealing evidence of septicæmic infection—small hæmorrhages, particularly on the serous surfaces. (*c*) The third was inoculated by Bannerman's cutaneous method. The result was similar to (*a*) above.

A diagnosis of plague was made on the following grounds: (1) the microscopical and cultural characters of the bacillus obtained from the human material and from the lesions produced in the guinea-pigs; (2) the biochemical reactions of the organisms from both sources; (3) the control of the organisms recovered from the animals by culture on bile-salt media; and (4) cultural and histological examination of the lungs, liver, and spleen of the patient revealed the presence of B. pestis in these organs. In the lungs the organism could not be demonstrated in the alveoli, being found only in the capillaries, while the air spaces were filled with a polymorphonuclear exudate containing Gram-positive streptococci. The pneumonia was then apparently secondary and the case one of septicæmic, not of pneumonic, plague, and it seems probable that the gland condition was an early and slight involvement of the lymphatic system preceding septicæmic plague.

Criticism.—The result of the examination by blood culture shows, I think, that this method is one of which a more extensive use might with advantage be made, and one might go so far as to suggest that it would be well if it were employed in every case of febrile disturbance of indefinite nature occurring on ships coming from abroad. Especially is there danger of a wrong opinion being given on clinical grounds in cases of "pneumonia." "Pneumonia" occurring on ships arriving from ports where plague, epidemic or epizootic, is known to exist is potentially pneumonic plague, and before a diagnosis of pneumococcal pneumonia is made the former should certainly be excluded by bacteriological methods. Let us assume that this boy had been the first case of the disease to occur on board the ship, and let us suppose that he had been taken ill two or three days before the vessel arrived in the Tyne. The gland condition would have subsided, and a (clinical) diagnosis of pneumonia would have been justified by the symptoms and physical signs of the case. Again, considering the agglutination of B. typhosus by the serum of the patient along with the physical signs one might well have expressed the opinion that the case was one of ambulant enteric fever complicated by pneumonia. In such circumstances the true nature of the infection would not have been appreciated and the disease might have been widely disseminated. I state this hypothetical case to emphasise the importance of the information obtained from blood culture in making the diagnosis of indefinite febrile maladies occurring on board ship. As blood culture is a certain method of diagnosis in the septicæmic form of plague, and is a valuable aid to the diagnosis of other forms of the disease, this procedure should in my opinion be made a routine practice in the examination of such cases. Not only does it give definite information in a large number of cases of infection with B. pestis, but it will frequently serve to exclude infections with other organisms.

Newcastle-on-Tyne.

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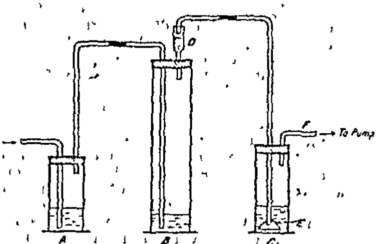
[1] Journal of Hygiene, vol. viii., No. 2 (Extra Plague Number).

THE ESTIMATION AND SIGNIFICANCE OF AMINO-ACIDS IN THE URINE IN DIABETES MELLITUS.

BY P. J. CAMMIDGE, M.D. LOND.

IN 1894 Mies[1] reported the case of a little girl suffering from diabetes in whose urine an abundant deposit of tyrosine crystals occurred. Since that date Nicola,[2] Abderhalden,[3] Mohr,[4] and others have described cases of glycosuria in which as much as 0 4 grm. per litre of that substance has been excreted in the urine. Bergell and Blumenthal[5] also found that tyrosine occurs in the urine of depancreatised dogs. Very little attention appears to have been devoted to other amino-acids, however, or to the total output in various types and grades of glycosuria. This is due, no doubt, largely to the lengthy and laborious processes generally employed for their separation and estimation. During the last few years I have met with several cases of diabetes in which tyrosine crystals appeared in the urine when unfavourable clinical symptoms leading to a fatal issue set in, and it occurred to me that if one could easily obtain even a rough estimation of the amino-acid excretion it would be [illegible] ment [illegible] the direct estimation of the [illegible] ave led to the degree of acidosis being more generally determined indirectly by the amount of ammonia nitrogen passed. For this purpose two methods are commonly employed, Folin's[6] and Malfatti's.[7] In the former the ammonia present in a measured quantity of the urine is aspirated through a known quantity of standard sulphuric acid, and the amount of acid neutralised ascertained by titrating with a standard solution of caustic soda. For this purpose the apparatus shown in the figure is used.



Sketch of apparatus used in the Folin method of estimating ammonia in urine.

A is a wash-bottle containing strong sulphuric acid to remove ammonia from the aspirated air. Into B are placed 25 c.c. of the urine, a few c.c. of paraffin oil (to prevent frothing), and about 1 grm. of anhydrous sodium carbonate. This is at once connected up to C, which contains 25 c.c. of decinormal sulphuric acid, diluted with 25 c.c. of ammonia-free distilled water, and a few drops of a solution of alizarin red. D is loosely packed with wool to prevent any sodium carbonate being carried over, and the other end of the delivery tube is provided with a Folin's absorption apparatus (E) to bring the aspirated air into intimate contact with the acid in C. When the connexions have been made, F is joined up to a filter-pump attached to the water-supply and air drawn through for two hours. At the end of that time the apparatus is disconnected, and E is washed with ammonia-free distilled water into C, the contents of which are then titrated with decinormal sodium hydroxide sol[illegible] the quantity [illegible] amount of ac[illegible] of urine. To express this as ammonia nitrogen it is multiplied by 0·0014 grm., and from that the percentage and the total ammonia nitrogen in the output of urine for the day can be calculated.

The Malfatti process depends upon the fact that ammonia salts react with formaldehyde in neutral solution to form hexamethylenetetramine, setting free the acids with which the ammonia was combined. These can then be titrated with an alkali. 10 c.c. of the urine are diluted with about 50 c.c. of ammonia-free distilled water and three or four drops of a 1 per cent. alcoholic solution of phenolphthalein added. Decinormal sodium hydroxide solution is run in from a burette and the reading taken when a permanent faint pink colour develops. 3 c.c. of a neutral solution of formaldehyde (prepared by diluting commercial formalin with an equal volume of distilled water, and adding just sufficient decinormal sodium hydroxide to neutralise the mixture, using phenolphthalein as the indicator) are then added, when it will be found that the pink colour disappears. A further addition of decinormal sodium hydroxide is now made until the pink colour is just restored, and the reading is again taken. The difference between the first and second readings is multiplied by 0·0014 grm. and the result by ten to obtain the percentage of "ammonia" nitrogen. From this the content of the 24 hours urine is readily calculated. The addition of neutral potassium oxalate has been shown by Mathison[8] to give a sharper end-point when phenolphthalein is used as the indicator.

Amino-acids react like ammonia to formaldehyde, so that the result obtained by the Malfatti process is the sum of the ammonia and the amino-acids present in the urine, but with Folin's method the ammonia only is estimated. If, therefore, a urine is examined by the two processes the difference between the results will be a measure of the amino-acids present. I have been employing this method of estimating the amino-acid nitrogen for some time and obtained results which have proved of great service in treating diabetes and giving an opinion as to the probable course of my cases.

The amino-acids are comparatively simple chemical bodies of known molecular structure, consisting of an acid, of more or less complex composition, in which an NH_2 group is substituted for one of the hydrogen atoms attached to the carbon atom nearest to the acid radicle. Unlike the proteins, albumoses, and peptones, the amino-acids can be obtained in a pure crystalline form, and constitute the "Bausteine," or building stones, of which the proteins are composed. The varieties and proportions of the amino-acids in different proteins vary considerably, and this, as we shall see later, is a matter of considerable importance in the treatment of diabetes. It has been proved conclusively that the proteins of the food are broken down by the digestive processes into the individual amino-acids of which they are composed, and that it is these, and not, as was at one time supposed, the albumoses and peptones which are absorbed by the walls of the intestine. Their subsequent fate is to a certain extent a matter of speculation, but they undoubtedly constitute the material from which the tissues obtain their supply of nitrogen, and they also contribute to the production of energy. Some observers have maintained that the amino-acids are resynthesised to blood proteins during their passage through the intestinal wall. Others have held that they are partly de-nitrogenised in the course of their absorption, and that the process is carried still further in the liver, the liberated ammonia being converted into urea by the hepatic cells and the non-nitrogenous portion used as a source of energy. A third, and more recent, view is that the amino-acids products of digestion pass into the circulation as such, and are transported to the tissues in the blood-stream; those that are needed for repair of the tissues are then utilised for that purpose, while the unsuitable and unneeded amino-acids are broken down, the nitrogen being converted into urea and the non-nitrogenous portion transformed into dextrose in some instances and in others directly oxidised into carbon dioxide and water like the simple fatty acid constituents of fat, furnishing in either case a source of energy for the organism. Since amino-acids have been most frequently met with in conditions in which there has been serious disease of the liver, such as phosphorus poisoning and

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[illegible]

[8] Brit. Med. Jour., 1909.

acute yellow atrophy, it has been assumed that the splitting off of nitrogen and formation of urea from the amino-acids not needed for repair purposes by the tissues takes place in the liver, but Folin and his fellow-workers[9] consider that the process is not confined to any particular organ and may be carried out by various tissues, very probably to a preponderating extent by the muscles. In addition to severe hepatic diseases, diabetes, and after extirpation of the pancreas in animals, amino-acids have been met with in the urine in typhoid fever, small-pox, erysipelas, pneumonia, leukæmia, gout, during pregnancy, and in children with gastro-intestinal disorders. In some of these conditions at least the amino-acids found in the urine are not primarily of alimentary origin, but arise from the breaking down of the tissue proteins, and they are excreted in the urine because the quantity formed is too large for the body to deal with in the ordinary way by de-aminisation and oxidation, &c., or the tissues have more or less completely lost their power of splitting some of the amino-acids formed.

The conception of glycosuria as a symptom of a disturbance of metabolism which, although varying in severity, is essentially the same whatever the primary cause may be, is now very generally accepted and has done much to improve our methods of treatment. It is important, however, that we should distinguish two, or possibly three, stages if satisfactory results are to be obtained. In two of the three the defect in metabolism is confined to a more or less complete inability to make use of the sugar derived from carbohydrate foods, but amino-acids are still available as a source of energy, and the body makes use of these, supplemented in the milder forms by a certain amount of sugar derived from starchy foods, and fats for its needs. In the third form, to which the name "diabetes" is confined by some writers, the power to metabolise amino-acids is diminished, with the result that these bodies appear in the urine and gradually increase in amount as the metabolic defect becomes more pronounced. Even in the most serious cases, however, some of the amino-acids are de-aminised and carried as far as dextrose, thus contributing to the sugar excreted in the urine, while the fatty acids of others are imperfectly oxidised and give rise to the acetone bodies (acetone, aceto-acetic acid, and oxybutyric acid) that are passed at the same time. Estimations of the amino-acids, acetone bodies, and sugar give therefore a much more complete picture of the state of the metabolism than any one of these taken alone, and by considering them in conjunction with the effects produced by a diet of which the qualitative and quantitative composition is known we can determine the stage that has been reached and the probable expectation of life.

In this communication I shall confine my remarks to the amino-acids, and only deal with them from the aspect of their determination by the method referred to. The varieties and quantities of the different kinds met with in various types of glycosuria and at successive stages of the condition are matters that are under investigation at the present time. I have found that the urine in simple cases of glycosuria shows no amino-acid nitrogen by the method described, excepting when there is evidence of a gouty condition or serious hepatic derangement; there may then be as much as 0·5 grm. in 24 hours. In such cases the urine may contain traces of acetone, but it is free from aceto-acetic and oxybutyric acids. When secondary disturbances of metabolism occur and the patient has reached the third stage, the amino-acid nitrogen is small in amount at first, 0·05 grm. or less, but as the disease progresses, and especially if it is not controlled by suitable treatment, it generally increases rapidly, often much more rapidly than the acetone bodies, until 2·0 grm. or more are being excreted daily. Finally, the amino acids may be present in such abundance that the relatively insoluble tyrosine crystallises out and can be recognised in the urinary sediment with the microscope. In some cases the excretion of amino-acids and acetone bodies run parallel, but this, as I have just pointed out, is not always the case, and one sometimes meets with a high excretion of acetone bodies and a low amino-acid nitrogen, while other cases show the reverse condition. The former often do surprisingly well, but the latter frequently die suddenly, with symptoms of heart failure, so that as a rule I place more reliance on the amino-acid content of the urine in giving a prognosis, particularly when the output cannot be completely and readily controlled by suitable dieting.

The question of diet is obviously an important one in all cases where amino-acids are found in the urine. It is now generally recognised that many diabetics, and more particularly those of a severe type, do better when the amount of meat taken is strictly limited and intervals of meat-free diet are interposed. This is the basis of the "oatmeal cure," the "potato cure," and similar methods of treatment, and of the vegetable days which are prescribed for most diabetics who are being treated by modern methods. The reason for their use is often not appreciated, however, and they are consequently prescribed in a haphazard manner. Their usefulness really depends upon the different proportions, and to a certain extent the different varieties, of the amino-acids which go to build up proteins of animal and vegetable origin. Animal proteins contain a relative excess of those forms which the defective metabolic powers of the diabetic find it difficult to break down and utilise for purposes of energy production, whereas vegetable proteins are comparatively poor in these constituents as a rule and contain a higher proportion of amino-acids which can be made use of to supply the energy needed by the tissues. Egg protein resembles vegetable protein so far as the diabetic is concerned, so that eggs can be used with safety in many cases where other animal proteins are contra-indicated. The protein of milk comes under the same category as other animal proteins, and one is therefore bound to forbid or strictly limit the use of milk, even when it has been deprived of its sugar, and also the numerous "diabetic" biscuits and bread substitutes which are now largely made of casein in place of the less palatable gluten, by many cases of diabetes

If we find that the urine of a patient suffering from glycosuria contains amino-acids we must first determine whether these are being derived from the food alone or come from the tissues as well, and if the former, whether he is still able to metabolise vegetable and egg proteins satisfactorily. Should the exclusion of animal proteins of all kinds from the diet result in a disappearance of the amino-acids, as it does in most gouty individuals, the prognosis is hopeful, and it is probable that by carefully regulating the diet, especially with regard to the kind and amount of protein taken, we shall be able gradually to improve the metabolic powers and get rid of the glycosuria, or at least prevents its increase. If, on the other hand, the exclusion of animal protein does not bring about a disappearance of the amino-acids, it may be concluded that the case is one in which there are serious secondary disturbances of metabolism, and that, although the life of the patient may be prolonged for a considerable time if a carefully arranged system of dieting is adopted, the condition is likely to grow worse and ultimately prove fatal. Much may be done even for patients whose condition appears to be almost hopeless if the diet is controlled by thorough and regular analyses of the urine. I have several patients under my care at the present time who have been told by physicians whom they had consulted two, and in one instance three, years ago that they had not many months to live in all probability, but they are still alive and comparatively well. The improvement in their condition has been brought about by a careful adjustment of the diet to their metabolic capacity, and a regulation of the protein and fat intake as well as the amount of carbohydrate consumed. In one of these cases the patient gained 23 pounds in weight in the first five months, and in another 28 pounds in six months, after the diet was rearranged. Others have also put on flesh, but not to such a marked degree. I am strongly of opinion that the common policy of allowing patients with glycosuria an unlimited amount of meat is pernicious in all cases, for even when no amino-acids are being excreted in the urine, and it is evident that they are being utilised by the organism, we should remember the high specific dynamic effect of protein foods, and bear in mind that it has been proved experimentally that a purely protein diet stimulates metabolism 40 per cent. over the fasting standard, as compared with 6 per cent for carbohydrates and 14 per cent for fats. A highly protein diet throws work that should be avoided if possible on an already defective organism, and its continuance tends to strain what powers remain to breaking point, with the result that sooner or later amino-acid metabolism fails in most cases, and the third or "true diabetic" stage is reached. The more I see of diabetes the more firmly am I convinced that the diet of even the mildest cases of glycosuria should be regulated by careful and complete urinary analyses and be so adjusted that no avoidable strain is thrown upon the metabolic powers of the patient in any direction. The appearance of amino-acids in the urine in recognisable amounts is usually a sign that too much protein food is being taken, just as the presence of sugar is an indication that more carbohydrate is being consumed than the patient can deal with efficiently. Their persistent increase, in spite of careful dieting, is of bad prognostic significance, but a steady diminution following a regulation of the protein intake suggests that, with care, the life of the patient may be prolonged for months or even years.

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[9] Journal of Biological Chemistry, 1912, xi., xii.

Nottingham-place, W.

THE MORTALITY OF CHILDREN FROM BURNING.

BY WILLIAM A. BREND, M.A. CAMB., M.B., B.SC. LOND.,
LECTURER ON FORENSIC MEDICINE, CHARING CROSS HOSPITAL.

THE deaths here examined are those of infants and children from burning caused by ignition of clothing, lamp accidents, and, in the words of the Registrar-General, "otherwise or not stated how," the great bulk of which may be assumed to have been due to the catching fire of clothing. The following are the actual figures for the years 1906 to 1911:—

Ages.	Boys.	Girls.
0 to 1	214	234
1 „ 2	443	466
2 „ 3	840	623
3 „ 4	630	729
4 to 5	368	775
5 „ 10	389	1427
10 „ 15	47	369
15 „ 20	33	261

In the subjoined chart a small correction has been made for the slightly greater number of boys at the earlier ages than girls. It will be seen that there is a very marked difference between the mortality of boys and girls. In the case of boys the figures increase rapidly up to the age of 3, drop nearly as quickly to the age of 6, and then gradually fall away to almost nothing. The mortality of girls continues to increase up to the age of 5, and then declines, though to not nearly the same extent as among boys. It remains higher through the ages of adolescence, being between the ages of 15 and 20 about eight times as great.

This remarkable difference in the mortality is probably due to the difference in the style of clothing worn by the two sexes. Up to about the age of 3 boys are dressed in the same way as girls. From 3 to 4 they are put into male attire and there is an abrupt and marked fall in the mortality from burning. With girls it is not until the age is reached at which they are better able to take care of themselves that the figures show a decline, though even then, and for later years, they remain much higher than those relating to boys.

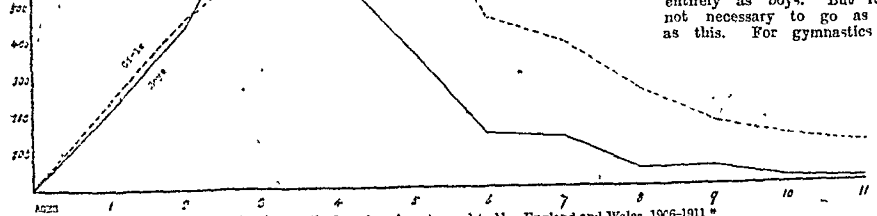

Chart showing deaths from burning at ages 1 to 11. England and Wales, 1906–1911 *

Miss Synge, in her admirable book on children's clothing, has recently drawn attention to the excessive number of garments worn by children of the poorer classes. Speaking of her experience in schools she writes: "The quantity of material used on the children was pitiful. Early Victorian patterns were for the most part used, and underneath the pleats and gathers the children looked swollen and shapeless. ...... The girls are the worst off. First they wear a thick vest and bunchy flannelette chemise. Flannelette drawers over or under some sort of stays—often boned—follow. Then two or three petticoats gathered or pleated into a waistband, or more often attached to a body or two bodies, not infrequently three bodies, of varying sizes. Over this is a bunchy frock, often kilted, and a pinafore. The garments are of varying sizes, some much too tight, some too large, and there is little freedom of limb such as we would see"

Probably no more inflammable arrangement than this, consisting of layers of flimsy material separated by air, could be devised. The corner of a pinafore has only to become ignited and in a moment the little victim is a mass of flames. On the other hand, the inflammability of a boy's costume consisting of cloth knickers and jersey or coat is far less

Considerable agitation has been directed against the use of flannelette, which is very largely worn, and undoubtedly the cheapest varieties are to be avoided. But this material is inexpensive, and it would probably be difficult to substitute anything for it among the poor. The foregoing figures show that it is not so much the material as the style of clothing which leads to loss of life, and probably any other light material used in the present fashion would be almost as dangerous.

The reason for the higher mortality of boys as compared with girls between 2 and 3 is not quite clear, but it may be due to boys at this age being rather more vigorous and enterprising than girls, and more frequently getting into positions of danger. It might be suggested that the higher mortality among girls at later ages is partly due to their being kept more at home and engaged in culinary work. But against this must be set the greater tendency of boys to play with matches or fire.

In addition to its inflammability there are other reasons for condemning the present manner of dressing little girls. The great quantity of clothing hampers the freedom of limb and body, wastes material, adds to the work of the mother in keeping it in repair, and necessitates heavy toil on washing-day. Efforts are already being made in various schools to induce mothers of the poorer classes to dress their children in a more reasonable way, and the Croydon local health authority has issued a sheet containing advice to parents on clothing. It is now a common experience at the seaside to see girls up to the ages of 7 or 8 dressed entirely as boys. But it is not necessary to go as far as this. For gymnastics or drilling a costume is now worn in many schools consisting of navy serge knickers and a short tunic or jersey and plain serge skirt. This costume is becoming, serviceable, and hygienic, and does not subject the wearers to the risk of injury or death in one of its most terrible forms. These are strong reasons for encouraging its use among the poorer classes in every way possible.

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* I am indebted to the Registrar-General for the details of figures for the ages 5 to 11.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF PSYCHIATRY.

Pellagra with Insanity.—What is Insanity?

A MEETING of this section was held on Oct. 28th, Sir GEORGE SAVAGE, the President, being in the chair.

Dr. J. W. E. COLE demonstrated a case of Pellagra with Insanity.[1] The patient was a woman who three days after admission to a mental hospital developed an erythema on the bridge of the nose, and this rapidly spread over certain parts of the face. Three weeks later the affected area was covered with a dry, yellowish-brown stain. The scaly surface had a clearly defined red margin, was very symmetrical in distribution, and resembled in every respect a case of severe sunburn. The backs of the hands were deeply pigmented and the epidermis was very rough and coarse. She had a dysenteric form of diarrhœa, but no stomatitis. Her reflexes were definitely exaggerated, but ankle clonus was absent. Her mental condition was difficult to distinguish from dementia præcox. The rash was now disappearing, and with it the mentality was improving. She had been in the asylum, on and off, four years, but the rash had not previously appeared.

Dr. CHARLES A. MERCIER read a paper entitled "What is Insanity?" He said there existed a vague notion of what was meant by insanity, but the fact that this notion had not been satisfactorily reduced to words showed that the concept was unprecise. Insanity and unsoundness of mind were not convertible terms. Each included much which was not in the other; in fact, the two things coincided for only part of the way. Insanity was a disorder not only of mind but of conduct; giddiness, epileptic auræ, claustrophobia, and agoraphobia had nothing to do with insanity. No one dare call a man insane until he had examined his conduct and found it disordered. And in speaking of disorder of conduct he did not mean "disorderly conduct" in the police court sense. But disorder of brain function might be added to the concept, making it a threefold matter; also disorder of metabolism deserved a place, making it fourfold. Each of these concepts was right in its own connexion; confusion ensued from giving all the concepts the same name. If insanity meant disorder of conduct and mind alone, then insanity was a symptom of disorder of brain function. If insanity meant disorder of conduct and mind *plus* disorder of brain function, and if these three were correlated disorders from which the patient suffered, then the three disorders constituted the disease insanity. But if these three were correlated with some wider disorder, such as alcoholic poisoning, myxœdema, gout, specific fever, Graves's disease, this threefold disorder was a sub-disease of the wider disease. When insanity was a symptom only he argued that it was expedient to speak of it as delirium, reserving the name "insanity" for cases in which what was meant by it was a disease

The paper was discussed by the PRESIDENT, Mr. JAMES STEWART, Dr. PERCY SMITH, Dr. ERNEST JONES, and Dr. E. S. PASMORE, and Dr. MERCIER replied, elaborating his thesis still further.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

Chronic Abdominal Pain.

A MEETING of this society was held at the Royal Devon and Exeter Hospital on Oct. 10th, Dr. C. J. VLIELAND, the President, being in the chair. In response to an invitation from the council of the society an address was given by Mr. T. CRISP ENGLISH, who had chosen for his subject "Chronic Abdominal Pain." Mr. Crisp English dealt mainly with the cases in which the cause of the pain was not at first obvious, and in which the question of a laparotomy usually arose. He said that these cases were becoming increasingly common, both in private and in hospital practice. The private patient who had had attacks of pain for some time, in spite of various forms of medical treatment, was sooner or later sent to the surgeon for an opinion; hospital patients were constantly arriving with notes saying that the bearers had had a chronic pain and advising that they should be opened. There was no group of cases in which good sound judgment and common sense were more needed. On the one hand, many patients might be saved years of chronic abdominal pain and ill-health by operation; on the other hand, many patients had been plunged into hopeless invalidism by an ill-considered laparotomy. Speculative operations frequently led to disaster, and were often the forerunner of further operations upon patients who never seemed to get well and who were always ready to have yet another organ explored or excised; but in most cases of chronic abdominal pain there was a definite organic cause for the pain, which could be removed by operation, and if the effects of the pain justified operative measures, then operation should be advised. The most important point was that a thorough physical examination must be made before the best line of treatment was decided upon. Not until evidence of every possible kind had been collected and summarised should diagnosis and treatment be discussed. In this the surgeon must rely upon the coöperation of the medical practitioner and the physician. In hospital practice the diagnostic process was easily arranged, and the following was the usual procedure, say in the case of a patient who had chronic or recurrent abdominal pain, the cause of which was not at first obvious. The history of the case was carefully taken, and the usual physical examination made. The urine was measured for 24 hours and analysed. If there was any doubt about the kidneys or bladder a bacteriological examination was made, for a coli pyelitis was the cause of some cases of obscure pain in the side. Skiagrams were then taken, either of the urinary tract to exclude stone, or of the alimentary tract after the ingestion of a bismuth meal. The patient was referred to the physician in many cases; in doubtful stomach cases a test meal was given and the result analysed. In certain other cases also special investigations were carried out, such as examination with the sigmoidoscope or cystoscope or a blood examination. Further, there might be a difficulty in properly examining the abdomen or pelvis, and an examination must be made under an anæsthetic. There should always be clear definite reason for an examination under an anæsthetic, and it should never be done on the off-chance that something might turn up which could not be discovered without it. The various reports and analyses were brought together after three or four days and these clinical findings were considered as a whole. In this way the diagnosis and treatment could be discussed under the best possible circumstances. Wealthy patients might also have a thorough investigation, but the man of moderate means often could not enjoy the advantages open to the rich and poor, and in his case the question of expense very often meant a limited investigation; this was obviously a matter which urgently needed reform. In taking the history of the illness, the important point was to be quite clear as to the very beginning of the illness: when was the patient last in quite normal health? what was the very first symptom he noticed? The initial symptoms should be gone into carefully and fully, and these would often suggest a clue which could not be picked up in the latter part of the history. The examination of the abdomen should never be hurried. They should look and think before they felt, especially in children. The well-known picture of "The Doctor," by Sir Luke Fildes, expressed perfectly what should be the attitude of the medical man towards the sick child: watching and thinking, and realising that much might be learned whilst the child slept. Skiagrams of the alimentary tract might give very valuable information, but one must confess that in the bulk of cases of chronic abdominal pain they were apt to be disappointing. A great deal had yet to be learned about the meaning of the skiagraphic appearances. Deductions made from skiagrams were often falsified when the abdomen was opened, and skiagrams should only be considered in conjunction with other means of investigation. In reviewing the cases of abdominal pain one noticed at once that there were certain well-marked types and groups. There was the gastric group of cases; there were the men with pain in the right upper abdomen; there were the women with pain in the right side; there were those with suspected appendices; there were the elderly, who might have malignant disease; there was that big distressing group of cases whose trouble and often never ended was colitis; and, of course, there were the children in a well-marked group of their own. As regards the gastric group, an important point to remember was that the surgeon should be very wary of exploring the stomach of a patient who did not vomit, however large and splashy the stomach might be, and whatever the skiagrams appeared to show. If, however, there was any suspicion of malignancy, that patient must not be left until the matter was cleared up. Chemical examination of the stomach contents would usually give definite information. Concerning the women with pain in the right side, there were certain points well worth bearing in mind. Gall-stones were unlikely to be present unless there was pain in the back; 20 per cent. of women had some degree of mobility of the right kidney; if a patient was told that she had a movable kidney she would never forget this fact. Trusses and pads applied in the hopes of supporting a mobile kidney often pressed injuriously on the cæcum, damaged the appendix, and so produced a new cause of abdominal pain. One of the greatest harms that could be done to a patient was to tell her that the pain was connected with the ovary; such a statement had often started a condition of chronic introspection, leading to mental and bodily ill-health. In the large group of cases in which the appendix was suspected there were two quite distinct classes. Firstly, these were the cases in which there were mild recurrent attacks of pain and uneasiness, which might be due to slight inflammation of the appendix; and secondly, there were those in which there was chronic inflammation of the appendix producing constant uneasiness in the abdomen and general ill health. The two conditions might be combined, but the difference between them must be clearly remembered. In the former, if a diagnosis was made of mild attacks of appendicitis, the only wise plan was to have the *appendix removed unless there was some good reason to the* contrary. He did not suppose that many would dispute this statement nowadays. Under modern conditions the risk of appendicectomy was a long way below a half or even a quarter per cent.; on the other hand, a diseased appendix [illegible] Definite localised tenderness, [illegible]ssed off, was usually the sign [illegible] and the man who had pain to-day and tenderness in the right iliac fossa to-morrow had a diseased appendix. Chronic appendicitis was the greatest surgical discovery of recent years, but the disease was surrounded by a host of base imitations, and the surgeon must pick his way carefully when dealing with this subject. No patients were more satisfactory or more grateful than those who had had a chronic diseased appendix removed. The subject of chronic appendicitis had usually been out of health for some time; he was a man who ought to be well and healthy but was not. In a well-marked case the digestion was disordered; pain and distension followed the taking of food; the action of the bowels was erratic, usually constipation with bouts of diarrhœa; tongue furred and breath unpleasant. The abdominal unrest reacted on the general health, which soon suffered. In such a case, if definite evidence of trouble about the appendix was found, a diagnosis might be made of chronic appendicitis, and operation would assuredly restore the patient to good health and enjoyment of life. The full benefit of operation was not always apparent at once and careful after-treatment was essential, but the ultimate results were excellent. The colitis group of cases presented great difficulties. The majority of the patients, unfortunately, could get no help from surgery. For many of them, in fact, the worst thing that could happen was that they should be operated upon. But there was a definite group in which the trouble was associated with an infected appendix. There was no doubt that in certain cases the appendix was the primary focus of infection, and the patient could not be got well by medical means until after the appendix had been removed. The most careful judgment was necessary, for removal of a [illegible] to a cure, whilst, if the [illegible] of the appendix was [illegible] should be decided upon, one point was of great importance: never lead the patient to suppose that removal of the appendix would see the end of all her troubles; operation must be regarded as a preliminary step in a complete scheme of treatment. In children the great majority of cases of abdominal pain were due either to disease of the appendix or to tuberculosis of the lymphatic glands. One of the most striking revelations of abdominal surgery was the frequency of glandular disease in the mesentery. It was a most *unfortunate thing for the children of this country* that the overcrowded programmes of the Parliamentary sessions prevented the passage of Bills for the control of milk-supply and the inspection of dairies. One of the results was the frequency of abdominal tuberculosis. Chronic appendicitis in children was a very definite disease, and Mr. Crisp English believed was at least as common as acute appendicitis. The text-books contained a scanty reference to this chronic condition, for it was only in the last two or three years that it had emerged from the obscurity of the intestinal disorders of childhood. In the earlier days of appendicitis there was a disinclination to operate upon children in the quiescent stage, unless there had been at least one definite and severe attack. Later clinical observation showed that some of the children with disordered abdomens and unsatisfactory health had, from time to time, attacks of pain and tenderness about the appendix. Removal of the appendix brought about a remarkable improvement in the general health, and so it gradually became clear that these children had been suffering, and suffering very decidedly, from chronic appendicitis. As time had gone by the improvement had been maintained. The children operated upon three or four years ago had never turned back. This was convincing that the appendix was beyond all doubt the cause of ill-health. Once the medical man felt sure about the diagnosis he should advise operation, and this for two reasons. One was that the child would not get well until the appendix was out, and the other was the ever-present risk of an acute attack. Acute appendicitis was one of the worst catastrophes that could befall a child, and once a child's appendix had shown signs of *inflammation it should come out. Remove the appendix and* the health would at once improve; good spirits and appetite were regained, and the child was once more what Nature meant that child to be.

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[1] THE LANCET, Sept. 6th, 1913, p. 717.

At the conclusion of his address a hearty vote of thanks was given to Mr. Crisp English on a proposal by Dr. D. W. SAMWAYS, seconded by Mr. RUSSELL COOMBE.

Mr. Crisp English was subsequently the guest of the society at the Exeter and South-Western medical dinner.

LIVERPOOL MEDICAL INSTITUTION.

Aseptic Technique of the Anæsthetist.—Enucleation of the Tonsil.—Suppurative Diseases of the Labyrinth.

A MEETING of this society was held on Oct. 23rd, Mr. ROBERT JONES, the President, being in the chair.

Dr. G. F. R. SMITH read a note on the Aseptic Technique of the Anæsthetist, in which he insisted on the preparation of [illegible] overall, cap, mask, and gauntlets.—Mr. R. C. DUN spoke of the advantages of the method, *especially in operations* on small children, where the anæsthetist was of necessity close to the field of operation.

Mr. THOMAS GUTHRIE read a note on Enucleation of the Tonsil. Referring to the technique of the operation he preferred the guillotine operation, introduced by Sluder in America and Whillis and Pybus in this country, for the great majority of cases. The method, however, failed in a few cases of very adherent tonsil, and in *these he employed* blunt dissection and a snare. Discussing the indications for the operatio[illegible]
cases of pur[illegible]
sillotomy wa[illegible]
more than t[illegible]
left behind. [illegible]
was almost always sufficient, and was a less severe operation than enucleation. Bleeding *after the two operations* was as [illegible] more [illegible] after [illegible] had [illegible]rming [illegible] the portal of entry for g[illegible] infection,

enucleation was the only scientific and satisfactory operation. Lantern slides and specimens of tonsils and the instruments used were shown.—Dr. W. SANDERSON, Mr. J. BARK, Mr. C. YORKE, Mr. E. M. STOCKDALE, Mr. A. ADAIR DIGHTON, and Mr. W. THELWALL THOMAS took part in the discussion.

Mr. ADAIR DIGHTON read a paper on Observations on the Diagnosis of the Suppurative Diseases of the Labyrinth. After reminding members of the fact that one of them, Dr. Edgar Stevenson, had introduced labyrinthology into England as far back as 1896, Mr. Adair Dighton demonstrated the tests upon a patient by means of the instruments of Brüning. He then took up in detail the various pathological divisions of labyrinthitis, together with the treatment of them. This completed, he went into the differential diagnosis between labyrinthitis, cerebellar abscess, meningitis and tumour of the auditory nerve. To wind up, he was of opinion that no operation, however small, should be undertaken upon the ear without the preliminary application of the functional tests.—Dr. PANTLAND HICK spoke of a case in which he had been associated with Mr. Adair Dighton where a successful differential diagnosis of cerebellar abscess had been made by the Brüning tests.—Dr. W. B. WARRINGTON said that whilst the nervous mechanism of the vestibular nerve and its relationships to the Deiters group of cells and oculomotor muscles were clearly known, the manner in which different kinds of stimuli excited the several semicircular canals and so caused nystagmus in different directions was difficult to follow, so as to be able to apply readily in practical work. Further simplification of the technique was desirable, especially when it was necessary to examine persons who were ill with intracranial complications. Dr. Warrington alluded to the rarity of cerebellar abscess compared with suppurative disease of the labyrinth, and urged the importance of diagnosis *inter operationem*.—Mr. STOCKDALE said that suppurative middle-ear disease attacked the labyrinth in two positions: (1) the region of, the promontory; and (2) the external semicircular canal in the region of the antro-tympanic passage. Total deafness on the affected side would suggest invasion in the cochlear region, and if the auditory apparatus was intact the application of the caloric test would decide whether the semicircular apparatus were active or not. If an erosion of the external canal was found during operation it was usually advisable not to interfere with it. The radical mastoid operation on rare occasions was performed on patients suffering from meningitis. A preliminary lumbar puncture was most helpful in doubtful cases. Deaths from meningitis following a radical mastoid operation and due to lighting up a latent labyrinthitis, although it might occur, was extremely rare.—Dr. EDGAR STEVENSON and Mr. HUGH E. JONES also spoke, and Mr. ADAIR DIGHTON replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

The Need for Eugenic Reform.

A JOINT meeting of this society and the Edinburgh Obstetrical Society was held in the hall of the Royal Victoria Dispensary on Oct. 29th to hear an address by Major LEONARD DARWIN, President of the Eugenics Education Society, on "The Need for Eugenic Reform." In introducing the subject Major Darwin said that Linnæus, writing in the middle of the eighteenth century, declared that species were now as numerous as when Providence first created them in the beginning, and that, in accordance with the laws of generation then laid down, the beings originally created produced only forms similar to themselves, with the result that the species now with us were no more numerous than they were at the first. In writing this, this great naturalist was only expressing his belief in the immutability of the different forms of life almost universally held in all civilised countries until the middle of last century. It was true that the suggestion that the world was the outcome of a long series of continuous changes had been made by several philosophers in ancient days; whilst from time to time some more advanced thinker would express the belief that every animal, including man, was the lineal descendant of some more primitive type of living thing. But those who held such views were always so few in number that the general acceptance of their beliefs could only be described as a complete revolution in thought. But must not the adoption of the belief that by evolution alone could we account for the visible facts of life tend to produce material alterations in the way in which we regarded many practical questions? The truth was that it was quite impossible for us to go on acting as if we held precisely the same beliefs as our ancestors, and the aim of the eugenist was both to guide and to hasten the reforms in social customs and in legislation which must in any case result from the acceptance of the doctrine of evolution. Anyone who studied our Poor-law statistics or who looked at our ever-growing lunatic asylums, homes for imbeciles, and hospitals, or who considered our criminal records, or who merely took a single walk in our city slums, must feel profoundly dissatisfied with the existing social conditions of his country. Splendid efforts were no doubt being made on all sides, but when we remembered how long this noble strife had lasted we were absolutely driven to inquire whether some other and hitherto untried methods were not also essential to secure the progress of the nation, or indeed to safeguard it from decadence. If, as Major Darwin held, it would be necessary to continue in the future, as in the past, to try to alleviate or mitigate the sufferings of our fellow creatures by the application of immediate remedies, it would be absolutely incumbent to recognise the necessity of searching for the ultimate sources of all these evils. In the past the efforts of the social reformer had been almost entirely directed to conferring immediate practical benefits on man by altering his mental and physical surroundings. We must, however, also in the future endeavour to ensure that our descendants shall actually enter the world with a better natural equipment than that which we possess. As long as complete ignorance prevailed as to the way in which the generations of man succeeded each other, it was inevitable that all philanthropic efforts to help the human being should have begun at his birth. Now that this ignorance was being dissipated we were bound to see if something could not be accomplished before his birth, and that was the aim of the eugenists. They held that the world was so constituted that all the good qualities of man, as well as all his evil tendencies, had been evolved in accordance with what were called the laws of nature. Their hope and belief was that by studying these laws we should now be able to take steps tending to ensure that the man of the future should be a far nobler being than the man of to-day. Major Darwin said that eugenists were not yet in a position to formulate a policy with great precision. They, however, saw clearly that the selection of the ancestry of the coming generations had been one of nature's main methods of ensuring racial advancement. Nature had always paid the closest attention to heredity, and this study was imperatively imposed on them. It was essential to adopt reforms based on heredity. The breeders of racehorses did not quarrel as to which was the more important for their horses, good training or good pedigree; and the breeders of mankind should not wrangle as to which was the more important, environment or heredity. There was much for eugenists to do, and he rejoiced that a eugenic society was likely to be formed in the capital of Scotland. Galton's definition of the science was that it included "the study of the agencies under social control that may improve or impair the racial qualities of future generations, either physically or mentally." The evil effects of alcohol on the drinker and his family were unquestionable, but how the distant descendants would be affected was unknown. As to the campaign against drink and disease, the eugenist should take part in it. The same was true with regard to environmental reforms, such as better housing and sanitation. But pending further knowledge as to the ultimate effects of all such reforms, if they wanted to ensure the progress of the race they must not confine their efforts to the cure of these evils, but must also consider the factor of heredity, which was the key by means of which the door leading to the future advancement of mankind could be unlocked. Their main object should be to decrease the rate of multiplication in the lower strata of humanity relatively to that in the higher strata. The poorest classes contained many individuals both very virtuous and very capable, whilst amongst the rich many most undesirable specimens were found. A sorting process was always going on, the naturally able amongst the poor often acquiring greater wealth, whilst many of the naturally deficient amongst the rich slowly sank from their more comfortable estate. The poorest strata did contain an exceptionally large proportion of the biologically unfit, but also had an exceptionally high birth-rate. If this meant that the unfit were multiplying more quickly than the fit, the nation was decadent. Speaking of the remedies for the relatively low rate of multiplication of the more capable classes, he suggested the income-tax being made to vary according to the size of the family, and death duties also. The pay of State employees might be made partly dependent on the number of their children. Such expedients would touch but few, and their main hope must rest on changing the mental attitude of the whole nation with regard to the duties owed to posterity. As to the high fertility of the very unfit, little could be done to check it by moral persuasion. A class did exist, out of which a vast output of undesirable citizens was taking place, which could only be dealt with by sterilisation or segregation. As to the former, he would only say it was a question to be approached with the utmost caution and in a very conservative spirit. They should watch what was taking place in America. As to segregation, this was in the region of practical politics since the passing of the Mental Deficiency Bill, which his society had no hesitation in placing in the forefront of their programme. But besides the feeble-minded other classes of degenerates—e.g., criminals and paupers—ought to have the rate of their multiplication diminished. Habitual criminals and paupers judged to be truly degenerate should be dealt with, not as needing punishment, but as requiring protection against themselves or for safeguarding the public from present injury and future hereditary taint. Their periods of confinement should never be short. Such a system would reduce the output of defectives, and this was all they could hope to do at present. In strengthening the scientific foundations of eugenics much remained to be done. A moral superstructure required to be erected, and here he was convinced their greatest difficulties would arise. Their main object must be to sow [illegible] deep and impelling sense [illegible] Eugenic education socie[illegible]laces, for everyone who [illegible]onsciously induced to become an advocate in their favour in general conversation. At Liverpool certain members of the council of the local Eugenic Society had done excellent service in giving elementary lectures in eugenics at various institutions, and, again, help was needed in making the best use of the local press, and lastly, special efforts should be made to interest teachers in schools in their cause. If the eugenic ideal could be properly planted in the minds of all children, not only would the effect be immediately ennobling, but good fruit would in time grow out of this seed by the men and women of the future. In concluding, Major Darwin said that it was not only the help of the scientist and the moralist that they needed, but every class was required to fight against national degeneracy. If it were only more widely known how enormous was the burden thrown on the community by the vast number of degenerates the need for reform would be better understood. Increased taxation, lowered wages, increased prices, diminished aid in time of trouble, and lessened power of competition in time of peace, these were the penalties we were now paying for the carelessness of our ancestors with regard to the purity of our race. Should we pass on this taint with undiminished intensity to posterity? If they could make the facts on which their creed was built more widely known, he was certain they would only have to appeal to their fellow countrymen to attract sufficient recruits to make the success of their cause a certainty

Sir THOMAS S CLOUSTON said that Major Darwin's address would give them a stimulus to start a eugenics society in Edinburgh. He was in thorough sympathy with the movement, and said there was no doubt that they had no possible hope of checking the increase in a large number of the mentally defective except through eugenics.

Professor J. COSSAR EWART said those of them who had been interested in questions of heredity were all prepared to help in the formation of such a society as had been suggested. The time must come in the history of all nations when extravagance must come to an end. Hitherto he thought they had been extravagant with their people, and they had not done much to encourage the fit.

Dr. D. BERRY HART said there was a great field for eugenics, and while he agreed in many points with Major Darwin, undoubtedly there were a good many difficulties. For instance, there was a great ignorance as to the laws which determined people to marry. They knew that the marriage of apparently suitable persons did not always turn out very well and that genius was not transmitted. He was exceedingly glad that Major Darwin had given them such a cautious and sane address, but one felt that it was one of the most difficult subjects in the world.

Dr. R. D. CLARKSON (Larbert) also spoke.

Major DARWIN having replied, a provisional committee, with Sir Thomas Clouston as convener, was appointed to take steps with a view to the formation of a eugenics society in Edinburgh.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—The first meeting of the session was held on Oct. 24th, Dr. T. Wardrop Griffith, the President, being in the chair.—The President gave an introductory address on the Development of our Knowledge of Diseases of the Heart. He commented on the necessity for those who were working at the newer methods of cardiac investigation to turn at the same time to the work of the older observers, and he passed in review some of the main contributions to our store of knowledge found in the works of Morgagni, Senac, Alan Burns, Corvisart, and Laennec, and among more recent observers John Elliotson, James Hope, Corrigan, and, among the Victorians, Gairdner and Balfour. As a practical result of the employment of the methods of experimental physiology we now had, as aids in our clinical work, the polygraph of James Mackenzie and the electrocardiograph of Einthoven. From former demonstrations the members of the society were more or less familiar with the former of these two instruments; the principles of the latter were explained and reference was made to the valuable work of Dr. Thomas Lewis, who had in this country probably done more than anyone else to advance the utility of the instrument. The address was illustrated by a large number of lantern slides.—The following cases and specimens were shown: Mr. G. Constable Hayes: A case of Syphilitic Disease of the Tonsil, with Glandular Enlargement, Simulating Sarcoma.—Mr. Walter Thompson: A patient with Extensive Rodent Ulcer of the Shoulder.—Dr. W. H. Maxwell Telling and Dr. E. O. Croft: Heart showing large Valvular Clot and Suppurative Pericarditis; Uterus with recent Septic Abortion; (?) relationship between the septic process and the clot; death by pulmonary embolism.—Dr. M. J. Stewart: Section from a case of Myeloid Sarcoma of a Tendon Sheath.—Cases were also shown by Mr. S. W. Daw, Dr. C. W. Vining, Dr. A. L. Whitehead, Mr. J. A. Coupland, and others.

EXETER SANATORIUM FOR TUBERCULOSIS.—This sanatorium in connexion with the Exeter Insurance Committee, was opened last week. The building, which was formerly the Heavitree isolation hospital, will provide accommodation for 12 patients.

NATIONAL HEALTH SOCIETY.—This society is organising a number of courses of instruction which will be given from November until April of next year. At 53, Berners-street, London, W., the offices of the society, there will be courses for women training as sanitary inspectors and health visitors, and also for voluntary health workers among the poor. Private courses in drawing-rooms will be given on first aid, nursing, and personal hygiene, and lectures will be delivered at mothers' meetings, working men's clubs and institutes, and girls' friendly societies on all subjects relating to health, the feeding and general well-being of mothers and infants, boys and girls, and the sanitation of the domestic household. The Lady Priestly Memorial lecture for the year will be given by Professor William Stirling, M.D., on Nov. 27th, at the Royal Society of Medicine, the subject being "Health, *Fatigue, and Repose*" A course of 12 lectures on Tuberculosis by Dr. J. E Squire, C.B., was begun on Nov. 3rd at the offices of the society. Applications relating to these lectures should be made to the secretary.

Reviews and Notices of Books.

Die Rassenhygiene in den Vereinigten Staaten von Nordamerika. By Geza von Hoffmann. Munich: J. F. Lehmann. 1913. Pp. xxi.-237. Price 4 marks.

State Laws Limiting Marriage Selection, Examined in the Light of Eugenics. By Charles B. Davenport. Long Island, N Y.: Eugenics Record Office. Bulletin No. 9. Pp. 66. 1913. Price 40 cents.

As is well known, America is the country where experiments in legislation for eugenic and other social purposes have been chiefly made, but hitherto there have been no convenient handbooks to which one could refer if in quest of information on the subject. This want has now been supplied by Herr von Hoffmann, who, as the Austrian vice-consul in California, was in a favourable position for collecting the necessary information. But he has not confined himself to a description of the legislative enactments of the Union or of the various States. He has also taken pains to master, as much as possible, what has been said and written for and against them, whether they deal with sterilisation, limitations in marriage, or the selection of immigrants, and with regard to each question involved he has made a clear summary of the *pros* and *cons.* Also to make his book more useful to persons quite unfamiliar with the subject, he begins with a chapter on the principles of race hygiene, but it is questionable whether his treatment of such subjects as the germ-plasm and Mendel's laws is not altogether too brief to be intelligible to a beginner. English readers in any case will have little use for it. More valuable is the next chapter, which describes the agencies concerned in the spread of eugenic ideas in the United States; but perhaps the most useful feature of the whole book is the bibliography which occupies the last 80 pages.

Dr. Davenport's work is of an entirely different nature; its most valuable part is the appendix, which contains a digest of the State laws limiting marriage selection. Their examination in the light of eugenics will hardly serve as a guide for future legislation on the subject, as the method adopted is the simple enumeration of the results of the various kinds of matings which are prohibited in one place or another. For example, with regard to incest between brother and sister, two cases are recorded: 1. "Hannah, about whom nothing is known (except that she has the reputation of not having good sense) had by her brother William, of whom also nothing is known (except that he was a painter) a son .. . . of whom someone said he is 'very feeble-minded,' while others have said he is not so bad considering." 2. "The father is feeble-minded—son of an alcoholic criminal. By his sister, who is mentally defective, he had a daughter who is epileptic, alcoholic criminalistic, and without sex control."

What light these two cases throw on the question whether brother and sister marriages are biologically desirable or not, or what use at all it is to discuss the question, it is difficult to see; nor is it easier to follow how by recording the following solitary case any help is given in deciding whether great-uncles and nieces should be allowed to marry. The case is that "Emily R., when 13 years old, was married, for a monetary consideration, to her father's father's brother, who was then 51 years of age. They had three children, of whom the eldest was sexually immoral and died of paresis at 42 years; one boy was 'not bright,' and was drowned at 18 years; the youngest boy died at 2 years."

It must be said in fairness to Dr. Davenport that the treatment of the more urgent question of cousin marriages is far more satisfactory, though the conclusion here arrived at is also based merely on quite a few selected marriages; these are arranged to show that desirable results ensue when the husband and wife sprang from a desirable strain, and that the reverse is the case when the stock is tainted.

Protein and Nutrition: An Investigation. By Dr. M. Hindhede. London: Ewart, Seymour, and Co., Limited. Pp. 201. Price 7*s.* 6*d.* net.

There is no date on the title-page and the preface is dated 1913, but in that preface it is admitted that the bulk of the present volume was written in Danish in 1905. The author is superintendent of a State laboratory in Copenhagen, where the practical data contained in the book have been worked out, with the coöperation of five assistants. The author admits in his preface that the book is somewhat polemical in character, an admission which will be readily endorsed by every reader.

The volume claims to be an examination of such authorities on dietetics as Voigt, Hirschfeld, Chittenden, and McKay, and the work of each is surveyed in separate chapters. Towards all these investigators, well known to the whole world for their patient efforts in experimental physiology, Dr. Hindhede adopts an attitude of criticism which would carry greater conviction if it were less confused and more controlled. Copious references are given in footnotes, but their value is seriously lessened by the almost complete absence of dates. When we find that some of the literature referred to dates back to 1879, and is alluded to side by side with the results of quite recent work, it is evident that no attempt at sustained analysis is being made. The author singles out Professor McKay for special attack, accusing him of "confusion" of thought, but he has clearly not studied Professor McKay's complete work published in 1912, which embodied the various papers, admittedly tentative, from which the matter is taken for discussion in the volume before us.

The author's own experiments on himself and his laboratory assistants have been on too small a scale to carry much weight, and, like so many of these experiments, they are carried out on selected subjects, losing sight of the possibility that in a population of varying physique, and varying hygienic surroundings, a mixed dietary may be of value.

Physical Diagnosis. By Richard C. Cabot, M.D., Assistant Professor of Medicine in Harvard University. Fifth edition, revised and enlarged, with 5 plates and 268 figures in the text. London: Baillière, Tindall, and Cox. 1913. Pp. 519. Price 15*s.* net.

A thorough and practical knowledge of the methods of physical examination and of the significance of the data obtained by them is essential to the practitioner, as affording him some of the most important material on which to base his diagnosis. Instruction in this subject is, therefore, one of the utmost importance for the student. Dr. Cabot's book, which has now reached its fifth edition, has achieved a recognised position as a standard manual upon the subject. In our reviews of some of the former editions we have referred to the practical and eclectic character of the information given, and these features are maintained in the present one. Dr. Cabot does not describe any method of examination with which he has not had practical experience. He devotes himself to physical examination proper, and deprecates any distinction between clinical diagnosis and laboratory diagnosis. He prefers to consider all the methods together, and advises that the student should be accustomed to think of them and practise them in close relationship to one another. For this reason he includes descriptions of the analysis of the gastric contents, of the blood, and of the urine.

The arrangement of the subject matter is convenient and simply worked out. Data relating to the body as a whole, such as alterations in weight and variations in temperature, are first considered, and then the various regions, systems, or organs of the body are separately discussed. The information obtainable by percussion and auscultation is very thoroughly described in connexion with the examination of the heart and lungs. Dr. Cabot often gives some valuable statistics in support of the statements he makes. We know of no book in which these methods are more clearly described or in which the significance of the signs obtained by them is more critically discussed.

Among the additions to the present edition we may mention the sections upon arteriograms, phlebograms, and [illegible] Dr. Cabot here only gives a brief [illegible] r obtained from them, and does [illegible] as to the methods of obtaining them. He also gives more details in regard to the arrhythmias in the light of recent work upon their nature. In connexion with the examination of the pulse he devotes special attention to the subject of blood pressure and to the instruments for measuring it. The examination of the stomach by means of the X rays after the administration of a bismuth meal is adequately dealt with, and some reproductions of radiograms illustrating the results obtained are given. The subject of interlobar empyema is well described and is illustrated by a very good reproduction of a radiogram of a case observed by Dr. Englebach and Dr. Carman.

The book is well produced and clearly printed. The number of the illustrations has been increased, and their quality has been greatly improved. They now form a valuable addition to the usefulness of the book. We can commend it to students and practitioners as a reliable and interesting work upon an important subject.

Massage, its Principles and Technic. By MAX BÖHM, M.D. Berlin. Edited with an introduction by CHAS. F. PAINTER, M.D., Professor of Orthopædic Surgery at Tufts College Medical School, Boston. *Illustrated.* London and Philadelphia: W. B. Saunders Company. 1913. Pp. 91. Price 7*s.* 6*d.* net.

IN his introduction the editor states that "physical therapeutics in all its forms is employed far more widely in Germany than in America." It is probably employed far more widely in America than in England. The profession at large are not securing for their patients the benefits that they might, because they do not know enough of the advantages to be gained from massage and exercise to think of making use of such measures, nor are the principles which underly the use of exercises in surgery at all widely appreciated. We are glad, therefore, to see the present large output of books upon this subject. They differ little from each other in their contents, but they all tend to make more widely known the good effects that can be obtained from the skilful application of massage in numerous affections.

We are in entire agreement with Dr. Böhm when he says that in a great many cases, in order to avoid harm, massage should be carried out by the surgeon himself or under his eye; such cases are especially those of inflammatory conditions of muscles, tendons, joints, and nerves, massage of internal organs, the eye, the larynx, &c. But there is unquestionably a large field open to the masseur with *no special medical knowledge*, as, for instance, when massage is administered to practically sound parts to strengthen them or improve their nutrition. The skilled masseur equipped with a small knowledge of anatomy is fully equal to this task. The book under consideration deals only with the latter class of case It is intended for the student who desires to assist the surgeon in an intelligent manner in massage and gymnastics The technique described is essentially that prescribed in Professor Hoffa's clinic After a description of the preparation of the patient and the fundamental manipulations of massage a few general contra-indications are given, and then follow a systematic description of massage as applied to each of the joints, to the groups of muscles in the trunk and limbs, a chapter on the massage of the nerves and skin, and finally on body massage. Coming from the clinic of Professor Hoffa it is unnecessary to state that the methods described are of the most approved and scientific. The arrangement of the subject is the best that we have seen, in that the contra-indications as applied to each joint are clearly stated at the beginning of each section; then follows an equally clear statement of the indications and the most suitable technique for the joint in question. The illustrations, upon which the book so largely depends for its value to practitioners and those unfamiliar with massage, are clear, simple, and well reproduced

We can recommend this book, which from its moderate cost and wide usefulness deserves to find a large public in this country.

The Surgery of the Eye. By ERVIN TÖRÖK, M.D., Surgeon to the New York Ophthalmic and Aural Institute, &c.; and GERALD H. GROUT, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute, &c. With 509 original illustrations, 101 in colours and two coloured plates. London: Baillière, Tindall, and Cox. 1913. Pp. 507. Price 18*s.* net.

THIS is in appearance a sumptuous work, with all the superficial attractions of good print and profuse illustrations. Closer acquaintance with the contents, however, proves disappointing. We find that the inflated number of illustrations is largely due to repetition of the same blocks. It is true that these are good—as good as any photographs of operations from nature that we remember to have seen; but photographs from nature are on too small a scale to be satisfactory guides to students, and it is impossible by these means to obtain that sharpness and accuracy of detail which are all-essential in operations upon the eye. The authors appear to have realised this point, for they have added many good diagrams.

With the letterpress we are disappointed Not that there are many actual errors—we have come across only one bad recommendation, viz., paracentesis of the cornea for acute inflammatory glaucoma (p. 175). The great fault is that the operations are not described in sufficient detail. The book is intended as a treatise on ophthalmic surgery for students and practitioners, and as such it ought to emphasise those minutiæ of technique which are more important in this than in any other branch of surgery. This lack of attention to the small details of every step is the besetting sin of the now numerous text-books on ophthalmic surgery. The great book on this subject yet remains to be written. The authors have used the designations "European" and "American" to distinguish the methods of operating from before and from behind the patient respectively. They are apparently unaware that nearly all English surgeons adopt the so-called "American" method, and that the so-called "European" method is by no means universal on the Continent. Most of the ordinary operations are described and instruments are illustrated.

Statistical Ready Reckoner. By GERARD C. TAYLOR, M.A., M.D. Cantab., D P.H., Medical Officer of Health of Berkshire. Reading: Bradley and Sons 1913. Pp. 409. Price 12*s* 6*d.*

PRESUMABLY this book is intended for the use of junior members of the Public Health Service, or of others whose leisure is so limited as to render such a *vade mecum* serviceable. The value of the set of tables that form the bulk of this volume has been proved by the author, who has used them in calculating the statistical rates required in his own work as county medical officer of health of Berkshire; and he publishes them with a view of facilitating the arithmetical labour of others similarly circumstanced.

The tables are prefaced by a set of examples showing how the former may be used most expeditiously. These examples appear to be correctly worked out, and the ready reckoner may be serviceable to those who are not familiar with the use of the ordinary logarithmic tables. We have not examined the 400 pages of tables that form the bulk of this volume, but the author affirms that great care has been taken, both in their preparation and in the correction of the proof-sheets, and trusts that no serious errors have been overlooked. The following suggestions are offered to those using the ready reckoner for the first time. In the first column of each page the population numbers in the tables are arranged consecutively, the figures in heavy type printed at the head of the other columns indicating the number of events (births, deaths, &c.) corresponding to the rates per 1000 of the population. In order to keep the volume within convenient limits the populations above 10,000 have not been included; but inasmuch as the rates for any larger populations may be calculated from the tables by merely adjusting the decimal point nothing is sacrificed by this omission.

Abwehrfermente des thierischen Organismus gegen korper-, blutplasma- und zellfremde Stoffe, ihr Nachweis und ihr diagnostiche Bedeutung zur Prufung der Funktion der einzelnen Organe. Von EMIL ABDERHALDEN, Direktor des Physiologischen Institutes der Universität zu Halle a S. Mit 11 Text-figuren, 1 Tafel. 2. Vermehrte Auflage. Berlin: Julius Springer. 1913. Pp. 199. Price, paper, 5.60 marks; bound, 6.40 marks.

WRITING on June 15th, 1913, the author hopes that the second edition of his work will have as friendly a reception as the first edition. The original title of the work, which was very fully reviewed in THE LANCET of Jan. 4th, 1913, has been changed. The term "Schutzfermente" has been replaced by the title "Abwehrfermente." The illustrations have been increased from 8 to 11, a plate is added to show the arrangement adopted for cooling the polarisation tubes, while the text has been increased from 110 to 199 pages. The literature also has been added to. The text has been thoroughly revised and many additions have been made, but we still could have wished to see the text so set out that the reader could find his way more readily, especially as there is no index. New chapters have been added on the stages in the katabolism of the "Bausteine" of the organism, hermaphroditismus verus, the protective regulations of the animal organism against substances foreign to the blood plasma, preliminary studies on the ferments of normal blood, the formation and sources of protective ferments, anaphylaxy, sero-diagnosis of the functions of organs, the correlation of certain organs. The unity of so-called proteolytic ferments is doubtful. Very full technical descriptions are given of the methods of dialysis adopted and also of the optical methods used by the author. We wish the second edition as rapid a success as its predecessor.

Diseases of the Eye: a Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, &c. With 360 illustrations and 7 chromo-lithographic plates. Seventh edition, thoroughly revised. London and Philadelphia: W. B. Saunders Company. Pp. 979. 1913.

THERE is no need for us to reiterate the eulogies with which we have greeted previous editions of this work. It is one of the great standard text-books of the English-speaking medical world, and the new edition serves but to re-establish it more firmly. We think the time has come to alter its *format*: it would be much handier if the pages were rather larger. Its outstanding merit is the abundant reference to all the most valuable contributions to the literature of the subject in recent years, and Dr. de Schweinitz succeeds in incorporating these details without marring the general perspective—no easy task. The new matter comprises paragraphs on Schiötz's tonometer, ophthalmodiaphanoscopy, sporotrichosis, Widmark's conjunctivitis, rosacea keratitis, epithelial dystrophy of the cornea, blue sclerotics, progressive atrophy of the iris layers, exudative retinitis, angiomatosis retinæ, cysts of the retina, blindness from arylarsenates, Siegrist's local anæsthesia, trephining of the sclerotic, Reese's muscle resection operation, and Toti's operation (dacryocystorhinostomia). Vaccine therapy and the indications for the administration of salvarsan receive ample consideration, and special attention has been paid to diseases of septic origin, particularly the more obscure forms of iritis and uveitis. The author's apologies for the shortcomings of his work are sufficiently discounted by the list of editions and reprints which have been found necessary. We can cordially recommend the book as belonging to the small group of the very best text-books on ophthalmology.

LIBRARY TABLE.

Die Fermente und Ihre Wirkungen. Von Professor CARL OPPENHEIMER, Dr. Phil. et Med., Berlin-Grunewald. Band I., vierte völlig umgearbeitete Auflage; und Band II., vierte völlig neubearbeitete Auflage. Nebst einem Sonderkapitel: *Physikalische Chemie der Fermente und Fermentwirkungen.* Von Professor R. O. HERZOG, in Prag. Leipzig: F. C. W. Vogel. 1913. Band I., pp. 485, price, paper 20 marks; bound 21 50 marks. Band II., pp. 1150, price, paper 36 marks, bound 37.50 marks.—The importance of ferments in the great vital processes of the body is now established. They may form, for example, a defence against bacterial invasion and they are concerned in controlling the physiological activities connected with metabolism. The study of ferments is developing very rapidly, and knowledge in regard to these wonderful bodies of the most interesting kind is being accumulated day by day. Biochemistry, indeed, has for its foundations the study of the enzymes and their functions. The ground is well covered in this extensive work upon the subject, the two volumes presenting an exhaustive reference to modern researches. The work is divided into three parts, the first being devoted to the general chemistry and biology of the ferments, the second to the individual ferments, and the third to the chemico-physics of the ferments and the nature of their reaction. This last interesting part is written by Professor R. O. Herzog. The subdivision of these parts into chapters and subsections resolves the enzymes into an excellent system of classification. The references to modern contributions on the subject are very copious, and disclose the fact that no small share of the pioneer work may be allotted to English workers. Prominent among these stand the names of Bayliss and Starling, Vernon, Green, Brown, Morris and Heron, White, Pavy, Plimmer, and O'Sullivan. The real founder of biochemistry, however, was, of course, Pasteur, and a rapid development of his work appeared in the researches of Fischer, Buchner, Kühne, and Chittenden. The history of the enzymes is a most interesting one, and all those who would be conversant with this history, as well as with the medical, chemical, and physical significances of the enzyme in the light of modern research, will consult this work with an obvious gain to their knowledge.

The Further Evolution of Man. By W. HALL CALVERT, M.D. Edin. London: A. C. Fifield. 1913. Pp. 324. Price 5*s.* net.—*The first few chapters of this book are devoted to* an attack upon the Darwinian hypothesis, in so far as that purports to find in natural selection and the struggle for existence a quasi-mechanical basis for the teleological aspect of evolution. In regard to this part of the book Dr. Calvert frankly admits that it is very largely based upon Paulin's work,[1] particularly Chapters III. and V., which deal with the Cannibal Habit in the Male and Malthusianism and the Law of Population. Darwin, with his usual frankness, admitted that he had been unable to ascertain the precise influences by which the assumed tendency of species to increase beyond the means of subsistence is checked, but in default of evidence concluded that the numbers are kept down mainly by starvation and disease. As against this conclusion, which may be called the bedrock tenet of Darwinism, Paulin claimed to have proved the practical universality among all prolific animals of an instinct prompting the male to devour its mate's offspring if it can obtain access to them within a certain number of days after birth. To Dr. Calvert's exposition of Paulin's theory of male cannibalism as a check to undue increase we have referred in a previous issue,[2] in connexion with Mr. Rodier's suggestion for the utilisation of this instinct as a means of exterminating rats. There can be no doubt of the interest and importance of this theory, as the influence of natural selection in the moulding of species by survival value would be reduced almost to vanishing point, once it were proved that the elimination of the "unfit" by starvation or disease is the exception and not the rule in nature. Darwin's views were admittedly suggested by the work of Malthus, whose alleged "law of population" was destructively criticised by Paulin. Dr. Calvert, in a chapter which reproduces the main facts upon which this criticism is based, asserts that Paulin "has proved that population never tends to outrun the means of subsistence; that population recedes when industry and commerce do, and rises again with a period of commercial prosperity. He has shown that war, pestilence, and famine do not limit population; that, in fact, they act at once automatically as an incentive to an increased birth-rate." These points disposed of, Dr. Calvert passes on to the main object of his book—"to ascertain from observed phenomena what is the path which man must follow, and to forecast as nearly as possible his final goal." It is an ambitious programme, and we are bound to say that we are by no means satisfied that it has been adequately carried out. The view taken is that, through the growth of "altruism," due to the permeation of society by the Christian ideal, there has been initiated a progressive amelioration of the general conditions of life, destined to culminate in a universal *régime* of harmony and happiness. It is a very dubious psychology which draws a hard-and-fast line between "egoism" and "altruism," as if they never coincided or had nothing in common. And, in any case, it is at least as tenable that the economic changes applauded by the author are due to the increased egoism of the many who profit by them, as to the growth of altruism among the few who, in a material sense at least, stand to lose thereby.

The Proceedings of the Optical Convention, 1912. Held at South Kensington, June 19th to 26th, 1912. Vol. II. 1912. London: University of London Press. Price 10*s.* net.—For reasons which need not be entered into now ophthalmologists in general hold aloof from the Optical Convention. Without prejudice to the validity of their position, we cannot but regret the detriment which it entails. It cuts them off in large measure from practical acquaintance with the work of such distinguished physicists as Professor R. T. Glazebrook, Professor Silvanus Thompson, Professor Callendar, Professor Poynting, Professor Schuster, and others too numerous to mention. It is the more necessary, therefore, that ophthalmologists should peruse the published accounts of the proceedings of those especially working at the problems of pure optics. There are many in this volume which will well repay their trouble. They will find Professor Silvanus Thompson's presidential address replete with interesting matter. It is an excellent *résumé* of the history of optics to the present day. We would further especially invite their attention to Messrs. C. C. Paterson and B. P. Dudding's contribution on the Visibility of Point Sources of Light, to Messrs. J. S. Dow and V. H. Mackinney's paper on the Measurement of Light and Illumination, to Dr. F. W. Edridge-Green's new Spectral Colour-mixing Apparatus, Mr. Tomlinson's Scotomagraph, Dr. von Rohr's paper on Aspherical Surfaces for Spectacle Lenses (Gullstrand's cataract lenses), and Messrs. A. C. Jolly and A. J. Bull's communication on the Measurement of Colour. These will suffice to show that the work of the physicist should not be neglected, and they will further afford evidence, if such be needed, that the physicist's *ex cathedrâ* statements require the physiologist's criticism.

Die Halluzination: Ihre Entstehung, ihre Ursachen, und ihre Realitat. Von Privatdozent Dr. KURT GOLDSTEIN, in Königsberg. Wiesbaden: J. F. Bergmann. 1913. Pp. 72. Price 2*s.* 3*d.*—Dr. Goldstein has written a useful brochure on the subject of hallucinations. He explains them as due to the abnormal excitability of the particular sense within whose field they occur. Illustrations are given of the various types of hallucination. In this connexion we should have liked to see more investigation of the hallucinations of the muscular sense. The factors concerned in the production of hallucinations are fully dealt with, and there are interesting references to the hallucinations of various figures prominent in the world's history. The paragraphs on the hallucinations of individuals who are mentally normal will repay perusal—a subject on which the Society for Psychical Research made a series of investigations some years ago.

Medical Electricity and Light. By ETTIE SAYER, M.B., B.S. Lond. London: The Scientific Press, Limited. 1913. Pp. 124. Price 3*s.* 6*d.* net.—This is an elementary text-book for nurses, and naturally treats the rather extensive subjects comprised in the title in the shortest and simplest manner. Its main object is to form a guide to nurses so that they may the more intelligently assist the practitioner or specialist for whom they are working. Most forms of treatment and apparatus are described, and the book is fully illustrated, even to the extent of redundancy. It will no doubt be found of real use to those for whom it is intended, but for the professional man it cannot be said to have any value.

Laws (Abstract) and Board Rulings Regulating the Practice of Medicine in the United States and Elsewhere. Twenty-first edition. Chicago: American Medical Association. 1913. Pp. 196. Price 30 cents.—The scope of this extremely useful pamphlet has been increased, so that in addition to Canada and the United States it now contains an abstract of the licensing laws relating to the practice of medicine in all the principal countries in the world. There is also a list of the medical colleges of all countries. It is, of course, most detailed in regard to the conditions for practice in the various States of the United States (each of which has its own regulations, so that a separate licence to practise is necessary for each State). Here it gives under the several States the licensing authority and its *personnel*, the dates when examinations are held, the requirements to accompany an application for licence, the standard required of colleges by the State, exemptions, reciprocity of licence with other States, and the definition of the Act as to what constitutes the practice of medicine. The book will prove invaluable to any medical man contemplating practice in the United States, and is serviceable generally as a book of reference to conditions of medical practice throughout the world. Every care has been taken by the Council of Medical Education of the Association to secure the utmost possible accuracy.

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[1] No Struggle for Existence; No Natural Selection. By George Paulin. Edinburgh: T. T. Clark. 1908.

[2] THE LANCET, Sept. 6th, 1913, p. 779, "Rat Destruction."

MISCELLANEOUS VOLUMES.

PROMPTITUDE in publishing its Transactions is a great virtue in any conference, and we are glad to welcome the *Transactions of the Fifth Annual Conference* (London: Adlard and Son. 1913. Pp. 222. Price 4*s*. 6*d*., post free 5*s*.) of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis, which was held on August 4th and 5th. Owing to its coincidence with the International Medical Congress, which followed immediately after the British Medical Association, we were unable to devote space to a report of the conference, but undoubtedly the chief interest centred in the discussion on tuberculin treatment, and this discussion was fully reviewed in a leading article in our issue of August 23rd, in which Dr. Hector Mackenzie's general survey of the subject also was published, several other papers having been published in previous issues of THE LANCET. The other papers contained in the Transactions discussed various aspects of coördination of antituberculous measures by Sir Robert Philip, Councillor A. Neal, Dr. A. Ransome, Dr. Hermann Biggs, Dr. W. C. White, Dr. E. Rist, Sir Clifford Allbutt, Professor C. Saugman, Sir William J. Thompson, Dr. E. Coey Bigger, Professor W. H. Thompson, and Lewis Courtauld.——The fact that a little pamphlet, entitled *Preventive Hygiene, an Account of the Brussels International Conferences, 1899 and 1902*, by an ENGLISH MEMBER (London: John Bale, Sons, and Danielsson. 1912. Pp. 36. Price 3*d*.), has reached a fourth edition, shows clearly that many have been anxious to learn the results of these two conferences on the prevention of venereal disease, and as the matter is exciting special attention at the present time we may state that this book presents very clearly one aspect of this important subject. It is not bigoted, and it recognises that the question has many sides, so that it should prove of help to those who wish to know the truth about the methods of the prevention of venereal disease and their results.

A number of reference books claim attention University calendars contain much information of general interest, more especially at the present moment, when reform is in the air and thought is being devoted to educational matters generally, and the purpose and place of examinations in particular.—We have received the *University of London Calendar, 1913–14* (London: Hodder and Stoughton. Price 6*s*. net), which, in addition to the usual information contained in this class of books with regard to curricula, names of members of the various faculties, and so forth, is prefaced by a short history of the University, and includes a coloured map of London showing the constituent colleges and the institutions having teachers recognised by the University.—The *Regulations for External Students* and the *Regulations for Internal Students* (same publishers) are useful and necessary supplements to the University calendar. —*London Matriculation Directory* (London: University Tutorial Press, Limited, price 1*s*. net) gives the questions set at the September examinations, with answers.—*London University Guide* (London: University Correspondence College, published gratis) contains notes on the subjects of the different examinations, with notes on the special subjects, for 1914–15.—*University College (London) Calendar* (London: Taylor and Francis) contains, in addition to the usual information, the examination papers for the session 1912–13.—Other calendars for the new academic year are those of the *University of Durham College of Medicine* (Newcastle-on-Tyne: Andrew Reid and Co., Limited), the *Calendar of the University of Bristol* (to be obtained from the Registrar of the University), and the *Calendar of the National University of Ireland* (also to be obtained from the Registrar). In the last named several changes are announced in the courses and regulations for 1914.—*The Calendar of the Royal College of Surgeons of England* (London: Taylor and Francis, price 1*s*.) has also just been issued. Alterations in the regulations will be found in the annual report of the Council of the College published in THE LANCET of Oct. 18th, p. 1144.

The increasing vigilance of the income-tax authorities is no doubt responsible for the issue of new editions of *Income-Tax Simplified*, by ARTHUR FIELDHOUSE and E. EWART FIELDHOUSE (London: Simpkin, Marshall, and Co., price 1*s*.), and *Guide to the Income-tax*, by F. B. LEEMING (London: Effingham Wilson, price 2*s*. 6*d*.). Both works serve a useful purpose; but we still look for the book—a small one would suffice—specially written to cover the requirements of the average general practitioner.

JOURNALS AND MAGAZINES.

Parasitology. Edited by GEORGE H. F. NUTTALL, F.R.S., and ARTHUR E. SHIPLEY, F.R.S., assisted by EDWARD HINDLE, Ph.D. Vol. VI., No. 3. October, 1913. London: C. F. Clay, Cambridge University Press. Price 10*s*. net; yearly subscription £1 10*s*.—The opening article on the Anatomy of Argas Persicus (Oken, 1818), by L. E. Robinson and J. Davidson, consists of the second part of these authors' exhaustive monograph on the fowl tick. The present part is devoted to an account of the integument, alimentary canal, and the blood vascular, respiratory, and excretory systems, and is profusely illustrated both with diagrams and coloured plates.—The Nuclear Structure and the Sporulation of Agrippina Bona Strickland, by Kenneth R. Lewin, contains an account of the nuclear changes of a gregarine, parasitic in the larva of the rat-flea, Ceratophyllus fasciatus. The various stages in the formation of gametes and the subsequent sporulation are described in detail, and from his account it appears that Agrippina bona does not differ materially from other gregarines in the manner in which the spores are formed.—In an article on Some Peculiar and Probably Specific Bodies in the Erythrocytes in Rinderpest and another Allied Disease, by W. Leonard Braddon, the author describes certain peculiar appearances observed in the blood of animals infected with rinderpest. In order to produce these appearances the blood is mixed with a solution of 1 per cent. potassium citrate and 0·5 per cent. medicinal methylene blue, and of the resulting mixture some specimens are put up under cover-glasses, whilst others are put in watch-glasses exposed to the air but not to light, and arranged as moist chambers. Under these conditions, after periods varying from 6 to 48 hours, peculiar bodies, ranging in shape from dots up to irregular elongate rods projecting from each side of a corpuscle, make their appearance in the red cells of animals infected with rinderpest. These bodies have so far been detected only in the blood of animals suffering from rinderpest or but recently recovered from it; on the other hand, they have never been observed in the blood of normal animals, so that it seems reasonable to assume that they are specifically related to rinderpest, At the end of the paper Sir William Leishman and Professor Minchin add notes, in which they testify to the accuracy of Dr. Braddon's description of the appearances presented in stained preparations of infected blood, but remark that these bodies do not resemble any bacterial or protozoal parasite hitherto known.—Observations on Mammalian Erythrocytes, by J. Charles Johnson, contains the results of a series of examinations of blood-films of both normal and diseased mammals, undertaken in order to determine whether the appearances described by Braddon could be seen in other animals. The blood corpuscles from various sources never presented anything like his description of the alleged parasite of rinderpest, which tends to support Braddon's view that what he describes is specific to that disease.—Tri-radiate Tænia Crassicollis Rud, by S. O. Yoshida, consists of a short note on the prismatic malformation of this species of tape-worm, occurring in Japan.—Seymour Hadwen contributes a most interesting article on Tick Paralysis in Sheep and Man Following Bites of Dermacentor Venustus, accompanied with notes on the biology of the tick. For some time past complaints had been received from a sheep farmer in British Columbia about a form of paralysis affecting his sheep and occurring annually from late February to early April. Dr. Hadwen has investigated this disease experimentally, and finds that it is a form of paralysis occurring in sheep, man, and probably other animals, and is caused by the bites of Dermacentor venustus, one of the common ticks of Western America. The author was able to reproduce the disease by the bites of adult ticks. The resulting paralysis in lambs was found to develop from six to seven days after the ticks had been placed on the animal. "Tick paralysis" is usually of short duration and is benign in character, but occasionally it may persist for long periods and may terminate fatally. The causative agent has not been discovered, and the disease has not been reproduced by inoculation. The most likely hypothesis seems to be that the tick injects a toxin which gives rise to the symptoms, and in this respect it is interesting to note that the ticks usually attach themselves along the backbone of animals. Finally, six cases are mentioned of tick-bites in children being followed by paralysis, in one of which the child died suddenly with symptoms of acute ascending paralysis. After death a large tick was found at the nape of the neck. Photographs are given showing the marked paralysis produced in lambs by the bites of ticks.—Experimental "Tick Paralysis" in the Dog, by Seymour Hadwen and G. H. F. Nuttall, is supplementary to the foregoing paper, and records a positive experiment carried out at the Quick Laboratory, Cambridge, upon a dog experimentally infested with Dermacentor venustus obtained from Canada. A single female tick was placed on this dog and after eight days the animal became paralysed; the symptoms persisted for about five days, after which they subsided and the dog recovered. In addition, guinea-pigs that had been bitten by nymphs and larvæ of Dermacentor venustus were found to die five to seven days later. As the disease is never accompanied by fever and, moreover, cannot be reproduced by inoculations, it seems probable that it is not infective.—The Herter Lecture, III., Piroplasmosis, by George H. F. Nuttall, consists of a useful summary of our knowledge of this important group of diseases, with descriptions of the various parasites and their life-histories, and also methods of treatment and prevention.—Conditions Influencing the Transmission of East Coast Fever, by George H. F. Nuttall and Edward Hindle, comprises a brief account of the effect of certain conditions on the infectivity of ticks infected with Theileria parva. The authors find that infected ticks when feeding on cattle do not produce infection during the first two days, and are still infective after feeding on a rabbit for three days. The partial feeding for two days followed by starvation for 17 days renders them non-infective. Infective ticks were rendered non-infective by exposure to 10° C. for three weeks, but their infectivity was restored by subsequently warming them. The authors suggest that the final development of Theileria parva in the tick, resulting in the latter becoming infective, commences only after the tick has begun to ingest blood.

The Journal of Laryngology, Rhinology, and Otology.—The October issue contains a paper read by Professor E. J. Moure, of Bordeaux, in the Laryngological Section of the recent International Congress of Medicine, on What becomes of Sinuses that have been Operated on? The sinuses referred to are, of course, the accessory sinuses of the nose. Many consider that in order to clear out and eradicate suppuration satisfactorily from a frontal sinus full exposure by destruction of its entire anterior wall, commonly known as Kuhnt's procedure, is indispensable, with the object of bringing the skin into contact with the internal wall of the sinus in such a way as to lead to the complete occlusion of its cavity, whilst Killian has devised an operation going a step further to obtain this apparently indispensable fusion. Professor Moure has long been quite convinced that these different ideas are more theoretical than practical, for he has observed that antra which had been very roomy when first operated upon no longer existed, so to speak, when he had to operate for the second time. The cavities had become filled up with fibrous tissue; even the bony walls had come nearer to one another, so that the sinus, in a measure, had disappeared. This fact—the cicatricial obliteration of the sinuses—at once suggested the question, If sinuses after operation close and fill up, then why perform operations so extensive and disfiguring as those of Kuhnt and Killian? For this reason Professor Moure believes that the Caldwell-Luc operation in the case of the maxillary antrum, and the Ogston-Luc in the case of the frontal sinus, will always be the ideal operations when these suppurating cavities must be dealt with by the external route. This is a matter of capital importance, since it means the reduction to a minimum of deforming and mutilating operations, and lessens the gravity of operative acts which many practitioners hesitate to perform by reason of the unfortunate consequences which they have had at times to deplore

The British Journal of Inebriety.—The October number publishes in full the excellently practical and thoughtful address on Alcohol and the Child-Bearing Woman, delivered by Mrs. Mary Scharlieb, M.D., at the breakfast of the National Temperance League in connexion with the Brighton meeting of the British Medical Association, of which an abstract was given in THE LANCET of August 2nd, p. 293. In an article on Parental Example and Intemperance, the Rev. Professor W. F. Lofthouse summarises the results of an inquiry which he has carried out on this subject by the method of the questionnaire. The replies received appear to have been somewhat indefinite and on some points contradictory, but they showed at all events that the influence of parental example may possibly cause reaction instead of imitation, so that drunkenness in the parents may lead to fanatical teetotalism in the children. An inquiry of this sort if carried out on a wider scale and with more precaution against subjective influences might be of value. In the course of some brief remarks on the Psychological Aspects of the Alcohol Problem, Dr. G. E. Partridge pleads for the abandonment of the naïve ethical judgments which have played so large a part in the discussion of the liquor problem, and outlines a scheme of psychological inquiry into the nature and origin of intoxication motives, considered firstly in relation to the organic constitution; secondly, to environmental conditions; and thirdly, to political, economic, and social activities. The article is suggestive, but necessarily somewhat sketchy.

Revista de la Sociedad Medica Argentina.—Dr. Romulo Chiappori contributes to the current issue of this review an interesting paper on the pathology and inter-relations of the familial systemic degenerations of the nervous system, Friedreich's disease and the syndromes of Strümpell and Marie. The author strongly supports Raymond's view ("Pathologie Nerveuse," 1910) that these affections are not to be regarded as distinct entities, since they are but rarely found pure, patients suffering from any of these affections presenting, in the great majority of cases, both clinically and anatomo-pathologically, symptoms of more than one member of the group. An important feature of the paper is an elaborate and detailed study, histological and macroscopical, copiously illustrated by plates, of the lesions presented in the cerebrum, cerebellum, and upper part of the spinal cord in a case of spasmodic tetraplegia in a child of 4. An excellent bibliography accompanies the paper.

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

Remuneration of Asylums Medical Officers.

THE Metropolitan Asylums Board recently decided to increase the remuneration of assistant medical officers, giving as one of the reasons that the scale in the London County Council asylums service was higher than that of the Board. At the meeting of the London County Council on Oct 28th, however, the Asylums Committee reported that it had adopted an increased scale of remuneration in respect of these positions. The committee stated that lately it had experienced great difficulty in securing the services of assistant medical officers, and it had become apparent that steps must be taken to improve and render more attractive the positions of the assistant medical staff in the London asylum service. The scale of remuneration for assistant medical officers had not provided hitherto an annual increment for any grade except the first. The fifth and sixth assistants received £170 a year each, the fourth £190 a year, the third £210 a year, and the second £250 a year in each case, with board, lodging, and washing, valued for superannuation purposes at £90 a year. The first assistant received a remuneration of £310 a year, rising by £25 a year to £410, with the same residential emoluments. The amended scale now adopted was as follows:—First assistant medical officer: commencing salary £350, rising by annual increments of £35 a year to £450. Second: £290, rising by annual increments of £10 a year to £330 Third £250, rising by £10 a year to £280. Fourth: £220, rising by £10 a year to £250. Fifth assistant medical officer, and all appointments under: £200, rising by annual increments of £10 to £220. The salaries included board, lodging, and washing in each case. The committee stated that the present expenditure on salaries for assistant medical officers amounted to £11 535 a year, and the amended scale involved an immediate increase of £1620, or just over 14 per cent.

Treatment of Uninsured Persons Suffering from Tuberculosis

When the Council adjourned the report of the Public Health Committee on the treatment of tuberculosis in London [1] had not been reached. The committee submitted a further report as to arrangements for the residential accommodation of uninsured persons. The committee remarked that as the result of legislation passed last session the position of the Metropolitan Asylums Board in relation to the provision of accommodation had materially altered, and, as already reported, the Local Government Board had expressed the opinion that the Council could now deal with the Asylums Board as with any other sanatorium-providing authority. In addition to accommodation which could be provided by the Metropolitan Asylums Board there was no doubt a number of beds at hospitals and sanatoriums available for London patients, and doubtless the existing accommodation, if found to be insufficient, would be augmented by the authorities concerned if they were satisfied that the Council would enter into arrangements with them for its use. The committee invited the Council to express the following opinion:—

> That any comprehensive scheme for dealing with the treatment of tuberculosis in London shall provide that the Council shall make arrangements with the Metropolitan Asylums Board, with hospitals, and with sanatoria for the provision of the residential accommodation required for London uninsured patients suffering from tuberculosis; and that it be referred to the Public Health Committee to consider and report whether adequate provision can be made in this manner without the Council being called upon itself to own and manage institutions.

To this Major LEVITA gave notice of an amendment expressing the opinion that the Council should not act as a financial intermediary between the Local Government Board and either the Insurance Committe [illegible] and should leave the local health [illegible] the Metropolitan Asylums Board and other institution-providing bodies, to deal with the disease of tuberculosis under the same administration as at present dealt efficiently with other diseases.

Future of the Mount Vernon Hospital, Hampstead.

The London Insurance Committee wrote directing attention to the fact that the authorities of the Mount Vernon Hospital at Hampstead wished to dispose of the hospital, and suggesting that the institution should be secured if possible for the treatment of insured persons in London suffering from tuberculosis. The Public Health Committee advised the Council to decline to purchase the institution, and to direct the attention of the Metropolitan Asylums Board to its impending sale.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

A COMITIA was held on Oct. 30th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that Mr. Frank Caldicott had been elected twenty-first Jenks Scholar.

The following gentlemen having passed the required examination were admitted Members of the College: John Rupert Collins, M.D. Dub. (Cheltenham); Reginald Robert Elworthy, M.B. Lond., L.R.C.P.; George Graham, M.D. Camb., L.R.C.P.; John Athelstan Braxton Hicks, M.D. Lond., L.R.C.P.; and Charles McMoran Wilson, M.D. Lond., L.R.C.P. (Hastings).

Licences to practise physic were granted to 105 gentlemen who had passed the necessary examinations.

The following communications were received: 1. From the Secretary of the Royal College of Surgeons of England, dated August 2nd and Oct. 13th, reporting proceedings of the Council of that College on July 31st and Oct. 9th respectively. 2. From the clerk of the Privy Council, dated Oct. 2nd, with enclosures relating to the International Health Bureau established at Jerusalem, and asking for observations upon the subject. After some discussion it was resolved that the substance of the communication and the correspondence in connexion therewith should be printed and distributed to the Fellows. 3. From Mrs. Edward Walker, of Wimbledon, dated Oct. 7th, offering for the acceptance of the College an original prescription of "Gregory's powder." The gift was accepted with thanks. 4. From Mrs. J. G. Curtis, of Chatham, Mass., U.S.A., dated Oct. 3rd, notifying that she has sent to the College, in accordance with the wish of her late husband, certain papers of the late Dr. Greenhill. The receipt of the papers was acknowledged with thanks.

A report was received from Dr. Aldren Turner upon the Third International Congress of Neurology and Psychiatry held in Ghent. The thanks of the College were given to Dr. Turner for his services. A report, dated Oct. 7th, was received from the Committee of Management. The Committee recommended that the Central London Ophthalmic Hospital should be recognised for the course of clinical instruction in ophthalmic surgery.

Dr. Frederick Taylor was re-elected a member of the Committee of Management.

After some further formal business the PRESIDENT dissolved the Comitia.

In the report of the Comitia held in July last it should have been announced that Dr. W. Rees Thomas, a Member of the College, had passed the additional examination (open to Members only) in Psychological Medicine. This was the first occasion that this examination had been held.

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[1] THE LANCET, Oct. 25th, p. 1205.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 8, 1913.

Research Work in Insanity and the Study of Curative Treatment of the Insane.

IT we read the signs of the times aright, British psychiatry is beginning to awake from its lethargy. Some 18 months ago we drew attention[1] to the unsatisfactory state of psychiatry in England, its comparative failure to advance notwithstanding the wealth of the material at its disposal, the obvious disadvantages under which the assistant medical officers of average asylums labour, and the absence of schools or clinics, except at one or two places, to attract the overseas visitor or to enlist the foreign graduate as a voluntary worker. But it is impossible for things to remain as they are once the interest of the profession is aroused Those who have devoted and are devoting their best energies to the advancement of scientific psychiatry come in touch with kindred spirits from foreign schools, and their enthusiasm is bound sooner or later to exert a leavening influence on the great mass of latent energy that is to be found in our asylums and similar institutions, waiting for a suitable outlet to develop its powers. British psychiatry can no longer revolve in an eddying backwater while the current of scientific research is flowing strongly past it.

The problem to which we believe the psychiatrical expert is now thoroughly alive is, how to utilise for scientific and curative purposes the immense material at its disposal. An asylum should be as much a centre of research as a hospital: we all know that any self-respecting hospital will labour to keep itself well equipped and to render itself up to date, and the report which we publish this week by Dr. H. OSWALD SMITH, of the Standing Lunacy Committee of the Surrey county council, *on the desirability of organising a research* laboratory at Netherne Asylum, shows that similar efforts are being made by mental institutions. This is indeed a most welcome indication of advance. We are well aware that not a few asylums, county and otherwise, are provided with adequate laboratories and ample material, yet the output of clinical or pathological research is regrettably limited, almost entirely, we venture to think, because the incubus of routine work overwhelms the medical officers Those who have lived and worked in large asylums know how appalling that routine may become. Dr. SMITH, in the case of Netherne Asylum, recommends that research work should be undertaken by a specially appointed officer, either a pathologist or a laboratory physician. The proportion of medical officers who are able to snatch time from their ordinary labours to devote to the prosecution of knowledge for its own sake is a small one, although, no doubt, opportunities are not wanting, but as at present constituted the daily programme of the medical officer of an average asylum is such as to render nugatory the efforts of many, even with the best intention in the world, to follow up lines *of study and investigation which offer themselves to the* observant physician. The proposal, therefore, is to appoint a special officer to work in coöperation with the medical staff, to perform duties more or less analogous to the clinical pathologist of the up-to-date hospital, to associate with the staff in the carrying out of modern lines of treatment rendered necessary by advance in our knowledge of syphilis, of diseases of the ductless glands, and so on. We are less concerned at this moment with the actual adjusting of the relations between such an officer and the residential medical staff; we should think the assistance thus provided and the atmosphere of research thus created are calculated to prove of the greatest value. What elicits our sympathy and our support is the determination of a *responsible board to bring their institution demonstrably* nearer that high level of attainment in curative research reached by the Crichton Royal Institution at Dumfries and by some other asylums in other parts of the country. The report is indicative of a freshening of spirit on the part of asylum authorities and of a healthy restlessness under present limitations which augurs well for the future.

Indeed, we see for a movement subjecting the material of our lunatic asylums to comprehensive and detailed research possibilities for great development. When the lessons learned in the laboratories of the psychiatrist are made available for the use not only of the pathologist but of the general biologist, the biometrician and the eugenist, it is certain that explanations may be forthcoming of problems which at *present* are perturbing the minds of many. Dr. CHARLES MERCIER, in his address upon heredity and inheritance as they concern the physician, delivered before the Society for the Study of Heredity and published in our columns this week, deals with several of those problems in a typically witty, whimsical, and dogmatic manner. With *some of his* criticisms we shall all be in accord, for he is a wise man and a master of his subject, while in other directions his following will not be so large; but a thoroughly scientific inquiry into the pathological condition of the inmates of our asylums cannot fail to clear away differences of opinion, if only by supplying firmer ground upon which to found opposing arguments.

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The Extension of Plague.

IT is maintained by many authorities that an epidemic of human plague rarely occurs without an antecedent epizootic among rodents, generally the rat. Similarly it is contended that the endemicity of plague in certain well-defined regions is always associated with an enzootic, and that this occurs often among rodents of the marmot tribe, as, for example, in the tarbagan (arctomys bobac) in Mongolia and other parts of Central Asia, the suslik or spermophile (spermophilus guttatus) in the government of Astrachan in European Russia, and the ground squirrel (citellus beecheyi) in the State of California in North America. In each of these instances just mentioned the flesh of the animal is prized by the natives and eaten in a cooked or uncooked condition. Cases are reported where plague has developed after the ingestion of such flesh; sometimes the hunter or trapper contracts the infection through an abrasion on his hand while skinning the animal. It is, however, probable that the most usual way in which plague is transmitted from the marmot to man is by the agency of the flea as it leaves the dead or dying animal to seek for a fresh host in man, failing another available marmot.

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[1] THE LANCET, April 6th, 1912.

The history of plague shows that after a pandemic has ravaged the world the disease disappears, often for a long period, emerging again unexpectedly and spreading rapidly from east to west over the globe. Epidemiologists have long regarded China as the home of plague where the virus lies latent between the great pandemics; and history shows plague to be a disease of great antiquity in China. Recently it has been suggested that the conservation of the plague virus in China is due to the tarbagan, the haunts of which are far removed from those of man and the rat; so that long years may elapse before an accidental transference of the infection from the tarbagan to man takes place So long as man keeps away from the tarbagan so long, it is maintained, plague remains latent; but when, as of late years, a demand for the fur of the tarbagan has arisen, Mongols, Buriats, Manchus, and even Cossacks are as a consequence recruited in considerable numbers to hunt and trap the animal on a large scale. It is evident that if plague existed among the tarbagan it is likely under such circumstances to be transferred on some occasions to the trapper in one of the ways indicated above. This is the generally accepted explanation of the origin of the terrible Manchurian epidemic of the winter of 1910–11 On the other hand, Dr. WU LIEN TEH (G. L. TUCK), director of the North Manchurian Plague Prevention Service,[1] contends that the rôle of the tarbagan in the spread of plague is not so important as some experts would have us believe The Russian and Chinese Governments, however, seem to look upon the tarbagan as a source of danger, for during the last two years both Governments have prohibited the systematic hunting or trapping of this animal. The commission appointed by the Russian Government, to investigate the cause of the continued endemicity of plague in the steppes of Astrachan found reasons for suspecting the suslik, or spermophile, of harbouring the disease. Although not yet sanctioned by the Government, plans are under consideration for the wholesale destruction of this marmot in Astrachan. It has been shown by experiment that infection of plague in this animal may be greatly prolonged, especially during the hibernating season. The population of that part of Astrachan where plague is endemic is sparse, and although year after year without exception plague appears among the nomadic tribes of this region, commonly in the pneumonic form, the outbreaks never attain large proportions, probably because the available human material gets exhausted in a short time. Nevertheless, the existence of this plague endemic area on the eastern borders of Europe is not without a certain amount of danger to the Western nations, with which, however, it has but little intercommunication

In California there has existed for some years an enzootic of plague among the hordes of ground squirrels which infest the open plains of the great interior valley as well as the foot-hills and rocky canyons of that region. Sporadic cases of human plague occur from time to time within this area, the last instance being reported so recently as September. Inquiry invariably shows that the person attacked had been shooting, trapping, or otherwise handling ground squirrels on farms where infected animals had previously been discovered. This enzootic of plague has been found so far to extend to 12 of the Californian counties, Contra Costa and Alameda being the worst affected. To Passed Assistant-Surgeon GEORGE W. MCCOY, of the United States Public Health Service, we are indebted for much valuable information respecting plague in the ground squirrel. He has pointed out that in the vicinity of some Californian towns this animal and the rat may be found living in the same burrows. The flea usually present on the ground squirrel feeds readily upon the rat, and the rat flea is equally ready to feed on the ground squirrel. So that it would not be difficult for an infected ground squirrel to infect a rat through the flea and for this rat to carry the disease into a human habitation and communicate the infection to man. This danger is now generally recognised in California, and since 1908 a determined effort has been made to exterminate the ground squirrel, more particularly in the zones around the towns where the danger is regarded as being greatest. This animal, apart from plague, is regarded as a pest, for by its depredations on the crops it causes great losses annually to the farmer. Enzootic plague in California is a menace to the United States, since there is always the possibility of the actual transference of plague infection from these animals to man; and this, in conducing circumstances, might lead to a human epidemic of serious proportions. That the authorities are alive to the danger is evident, for the Californian State Board of Health has sent its secretary to Washington to confer with the Surgeon-General of the Public Health Service, and to invoke the assistance of the Federal Government in carrying out a campaign of "decitellisation," or extermination of the incriminated ground squirrels. All the evidence collected up to the present day points to the conclusion that the persistence of plague from year to year in a locality cannot be attributed to the conservation of the bacillus pestis in a free state outside the living body, but that the persistence is maintained exclusively by the passage of the virus from one living body to another. It may also be inferred that plague was originally a disease peculiar to rodents, and that its extension to the human species was in the first instance accidental.

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The Housing Problem in Dublin.

THE leaders of the Labour party in their various speeches in perturbed Dublin during the bitter industrial dispute have said accurate and inaccurate things, shrewd and foolish things, but when any of them laid stress on the housing conditions to which the Dublin workman is subject he was sure of an attentive and sympathetic hearing, for it is well known that the Dublin housing conditions for the labouring classes are too often scandalous. The socio-political circumstances in Dublin have quieted down during the last few days, but the insistence of the labour leaders on the importance of dealing with the housing question, following on the collapse of two tenement houses a few weeks ago, seems to have aroused the public conscience. Something is going to be done; one of the most pressing of municipal and sanitary problems in Ireland is, we hope, going to be tackled. It is at last felt by the community that the housing conditions of Dublin are not merely, as they have been for years past, a danger to the public health, but that they are becoming a menace to the social order.

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[1] THE LANCET, August 23rd, 1913, p 529.

The facts have, of course, long been known to all who cared to know them. In his official reports Sir CHARLES CAMERON, the medical officer of health of the city, has set them out year by year, when they form the regular text for leading articles in the daily press, where at other times the reflections by medical men and sanitarians upon the matter are regarded apparently as unnecessary jeremiads. Similarly, in his periodic charges to the city grand jury, the Recorder of Dublin, Mr. T. L. O'SHAUGHNESSY, has assigned to the housing conditions of the poor the origin of most of the crime which comes before him. Some of the facts given by Sir CHARLES CAMERON in his last annual report, that for 1912, which has been recently issued, are of such a nature that it is difficult to understand why popular outbursts and subsidence of structures have been necessary before the apathy of the authorities was overcome. The death-rate of the city was 22 per 1000 of the population, and the mortality under 1 year of age was 140 per 1000 births. These figures on their face only convey half their message. Both infant and adult mortality were specially high in the labouring class, so that in less than one-third of the community more than one-half of the deaths of children under 5 years occurred. The houses occupied by the workmen, the parents of these luckless children, are in many respects beautiful ones. They are, almost without exception, Georgian residences formerly occupied by the country gentry and professional families. Many of them are mansions of considerable beauty and size, and they have still the advantage that the rooms are large and lofty, and staircases and landings are spacious. These mansions are decayed to the ruin point, but they still display the virtues of their conception. Other houses are smaller and have little of either light or air, but in both the large and small houses the lettings are for a great part in single-room tenements. There are, in fact, 21,113 families, with a population of about 69,000, living in single-room tenements. That is to say, that over one-fourth of the population of Dublin live in such conditions. In Bristol, a city little larger than Dublin, the proportion of the population living in single-room tenements is only 1·5 per cent., and in Edinburgh, which historically and socially has many resemblances to Dublin, only 5·6 per cent. Needless to say, the death-rates in these cities are much lower than in Dublin. It requires little imagination to conjure up the picture of dirt and disorder to which such over-crowding as occurs in Dublin must conduce. The question of lavatory accommodation is but one of many, but the circumstances set out in this connexion by Sir CHARLES CAMERON may be taken as typical of the horrid whole. It is unusual, it appears, for these houses to contain any sanitary accommodation within the walls—not, perhaps, a matter of great complaint; but the only provision for a houseful of 30 or 40 people—men, women, and children—is too often one water-closet in the yard. It goes without saying that this water-closet, being used by six or eight families, is frequently in a filthy condition, and similar blindness to the ordinary rules of cleanliness can be witnessed in all the domestic circumstances of the Dublin lower classes. It is high time for reform.

It is not to be thought that no attention has been hitherto paid to the housing question in Dublin. Both the Dublin corporation and Lord IVEAGH have spent large sums in clearing some of the worst spaces and erecting healthy and sanitary dwellings. Unfortunately the rents required for these dwellings have put them beyond the reach of the labouring classes, and the tenants are artisans and clerks. Meantime, the clearance of the areas occupied by these new blocks has necessarily increased the congestion of surrounding areas, and the labouring classes, who constitute a large proportion of the working population, find themselves no better off. Under present economic conditions it seems impossible to provide housing for the working-classes at remunerative rents, and the problem is so urgent that improvement in economic conditions cannot be awaited indefinitely. The question is one, therefore, of capital expenditure either by the municipality or the State. The appointment of a Vice-Regal Commission to report as to the best means of procedure has been pressed, but when the Chief Secretary was approached he would not go further than to promise a departmental committee of the Local Government Board. As this body has been fully aware of all the circumstances for years, and has remained inert, little is expected from this proposal by the inhabitants of Dublin.

Annotations.

"Ne quid nimis."

THE PREVALENCE OF FATAL BURNS IN CHILDREN.

EVERY house surgeon and dresser knows how heavy is the toll in infant life, suffering, and deformity occasioned in children through accidents by fire. He also realises that although life may often be saved and suffering alleviated, the resulting disfigurement which in greater or less degree attends nearly all such accidents is permanent. It becomes, therefore, of the first importance that all investigations bearing upon the prevention of such accidents should receive careful consideration. In this connexion attention is called to the article on the mortality of children from burning, by Dr. W. A. Brend, which appears elsewhere in this issue, in which he classifies the deaths in children due to burning between 1906–1911, according to their ages, in boys and girls respectively. Dr. Brend, we think, makes out a good case for the view that the dress of girls is the predominant factor in the great disparity there shown to exist between them and boys as the subjects of such accidents, for this disparity begins to show itself only from the age at which the dress becomes differentiated in the sexes—i.e., about the third year, at which time the ratio progressively decreases in boys, but continues to increase in girls until years of discretion are reached, and even then a decline occurs only very gradually. While the use of inflammable materials is no doubt partly to blame, Dr. Brend lays stress also on the fact that layers of such garments enclosing strata of air between them greatly increase the danger. The tendency to superimpose layers of garments on children is decreasing in these days and giving way to methods of dress more suited to bodily activity, but there are still many thousands of children, female children in particular, who are made into perambulating bundles by ignorant, well-meaning parents. A recognition of the part played by these layers of garments in relation to serious burns will doubtless tend to hasten their much-to-be-desired abolition. A totally different sort of burn is discussed by one of our Scottish correspondents, who points out, also in this week's issue, that a great many of the burns that occur in children in Aberdeen, according to the last report of the medical officer of health, were attributable to the application of poultices to relieve trouble in the chest or abdomen. It seems strange that such lack of ordinary judgment should obtain, but when we recall the fact that even nurses have been known to bathe patients in water that scalded them, one must not be too much surprised at a lack of discrimination in an untrained public. Both forms of injury have this in common—they point to the desirability of a general school training in at least the rudiments of physiology and hygiene.

MOUNTAIN SICKNESS IN THE ANDES.

FEW medical men have such opportunities of studying at first hand the symptoms of mountain sickness as those enjoyed by Dr. T. E. Ravenhill, who contributes a graphic account of this malady to the *Journal of Tropical Medicine and Hygiene* of Oct. 15th. For two years he acted as medical officer to a mining district in the Andes, situated at an altitude of over 15,000 feet above sea level. The railway brings passengers in 42 hours by fast train, in two days and a half if the journey be broken at Calamba, from Antofagasta on the Chilian coast to this high level. Arriving about midday the passenger complains of no symptoms until towards evening; then lassitude is felt, and he wakes up next morning with severe frontal headache, often with vomiting and with a rapid pulse. The tongue is furred and the eyes are dull and heavy, but the temperature is subnormal. A better day follows, and if the patient stays quiet the attack is soon over. To these symptoms, which are known to the natives as "puna," certain serious features may be added. If these are cardiac in type the patient presents the appearance of acute heart failure; the pulse is rapid and the heart-sounds feeble, there is cyanosis with intense dyspnœa, and if this condition is not treated by immediate return to a lower altitude death may follow quickly. It is curious that while perfectly healthy, robust persons may be attacked in this way, those who have cardiac disease are not specially afflicted. In the nervous type of puna delirium may be a prominent symptom, or there may be troublesome and persistent vertigo. In about 20 per cent. there is some epistaxis, but it is rarely profuse; occasionally blood is poured out from other mucous membranes. Puna is more frequently experienced by those who arrive in the mountains during the thundery weather which is common in the earlier part of the year; the best day for arrival is one characterised by clear, dry, cold weather. Those who take alcohol on the journey up suffer worse than those who do not; but travellers who expect to ascend the Andes may be consoled to hear that Dr. Ravenhill found that smoking does not aggravate the symptoms. Muscular work is apt to exaggerate the attack, and it is wise to keep quiet for a day or two after arrival Women seem to suffer less than men, and children less than adults. The aborigines do not suffer from puna as a rule. For the ordinary cases rest in bed with the window well open was sufficient to effect a cure. Aspirin was found to relieve the headache. Certain indigenous herbs, taken in the form of infusions, are supposed by the natives to have a curative action; this, however, Dr. Ravenhill's observations failed to confirm. He found the effect of oxygen inhalations disappointing. It appears that those who live for some time at high levels acquire a certain immunity to these symptoms, which lasts for a short time even if they return to low levels, but a sojourn of any duration quite destroys the beneficial effects of acclimatisation. On the other hand, the man who lives at the high levels feels fatigue more readily than one who has been living at ordinary altitudes and comes up thence to the mountains. The quicker the upward journey, the more intense the symptoms; and in certain valleys and other districts persons are inexplicably more liable to puna. A rapid descent to the lower altitudes is as a rule attended by little discomfort beyond headache and tinnitus. In conclusion, Dr. Ravenhill gives some interesting figures to show how rapidly the number of red blood corpuscles increases on arrival at high altitudes; in his own case they passed eight millions per cubic millimetre on the fifth day, and remained there or thereabouts indefinitely, and observations on other persons showed that this was an average experience.

VAGITUS UTERINUS.

VAGITUS uterinus is a very rare occurrence. Indeed, the reported cases have been received with considerable scepticism, and the arguments have been advanced that the sound heard was produced outside the uterine cavity and that air cannot gain access in sufficient quantity for respiration. In the *New York Medical Journal* of Oct. 11th Dr. J. H. Telfair has reported the following case which is unusually convincing, as the cries were heard by four practitioners. A woman, aged 24 years, was in her second labour at the Lying-in Hospital, New York. The first labour had been easy and the pelvic measurements were normal. After 36 hours she was exhausted and the cervix had dilated to the size of a silver dollar. As the fœtal heart was becoming weak and irregular it was decided to interfere. The cervix was soft and was manually dilated to the full extent in 20 minutes. The head was in the right occipito-posterior position and unengaged and the membranes were unruptured. Internal podalic version was performed, the membranes rupturing when version was half completed—i.e., when the long axis of the fœtus was at right angles to the uterus. At this time Dr. Telfair's right arm was in the uterus up to the elbow. The left leg was brought down to the vulva. He had just grasped the foot loosely preparatory to traction when his assistant flicked the sole with his finger. The plantar reflex was excited and the child gave a prolonged cry followed by two short, sharp cries. The cries sounded exactly as if the child were completely enveloped in a heavy blanket. Hurried extraction was performed, occupying less than a minute. The child breathed and cried normally without stimulation and showed no signs of having inspired more than the ordinary amount of mucus. It weighed 3560 grammes. Owing to the rapid delivery the cervix sustained severe bilateral laceration, which was repaired at once. The puerperium was uneventful. Three other members of the hospital staff (an attending physician and two of the house staff) were present and heard the cries distinctly. Dr. Telfair asks the question, Could a man of any experience mistake any other sound for the cry of a babe? In the criticism of the recorded cases the sound has been attributed to a vibrating fold of membrane in the vagina, to the passage of gas per rectum, intestinal rumbling, and so on. For the production of vagitus uterinus two things are necessary: ruptured membranes and the presence of air in the uterus. In introducing the hands or instruments into the uterus it is difficult to exclude air. Air having once gained access, what is to prevent it filling all the interstices between the fœtus and the uterine wall? In normal labour after rupture of the membranes the head acts as a plug, and sufficient liquor amnii to fill the interstices between the fœtus and the uterine wall remains. During operative delivery the whole of the liquor amnii may drain away, and the interstices then become filled with air. The hand and arm of the accoucheur in the uterus, by further separating the uterine wall from the fœtus, enlarge the space not filled by the fœtus. Given air in the uterus one inspiration would be sufficient for a cry. There are two theories as to the cause of the commencement of normal respiration—the stimulus of air on the skin and the accumulation of carbonic acid in the blood in consequence of separation of the placenta. In the case recorded above stimulation of the skin seemed to be the cause, for the *uterus did not appear to be sufficiently retracted to* cause separation of the placenta. Moreover, the success of cutaneous stimulation of the newly born child when cessation of the placental circulation has failed is well known. Of 44 reported cases of vagitus uterinus more than half were operative deliveries, 11 being forceps, 15 versions, and one replacement of arm and cord. The fœtal mortality was 10 per cent. Dr. Telfair holds that once vagitus uterinus is heard the only hope of saving the child lies in rapid extraction, even at the expense of maternal lacerations. But unless the stimulus to inspiration be separation of the placenta, which he argues is not necessary, it is difficult to see why the child should be regarded as in so much danger.

WILSON AND WILSON v. MICHIE.

IN a probate action arising out of the will of Julia Beale Clout, a widow 49 years of age, a brother and sister of the deceased claimed to have the probate of her will and of a codicil, both made in 1912, revoked. By these the testatrix gave the whole of her property to Mr. J. Michie, who had been her medical attendant during the latter years of her life. By previous wills her relatives would have benefited. *The plaintiffs alleged that the* will and codicil had been made under the undue influence of the defendant, and also that at the time the deceased was of unsound mind and wanting in testamentary capacity. The solicitor who prepared the will and codicil in question, under which Mr. Michie was sole executor, gave evidence to the effect that he took his instructions from the testatrix in her own house, and that the defendant was not present either when the instructions were given or when the will and codicil were signed. He also stated that the testatrix was at the time of a sound disposing mind. This evidence, so far as it concerned the mental capacity of the deceased, and the absence of any appearance of influence exerted by the defendant, was corroborated by a servant and a nurse. The defendant also went into the witness box and gave a full account of his relations with the deceased, which he stated, were those *of a medical man towards his patient.* There was evidence given of dislike evinced by the deceased towards her relatives. After the defendant's case on behalf [illegible] had been concluded the plaintiffs gave [illegible] The judge [illegible] box, found that the will and codicil had been duly executed, that the deceased knew and approved of their contents, and that they had not been obtained by *the undue influence of the* defendant. Judgment was accordingly *entered for the* defendant with costs, Mr. Justice Bargrave Deane declining to allow costs out of the estate in the case of charges of using undue influence which had broken down.

ENTEROGENOUS MESENTERIC CYSTS.

A DEVELOPMENTAL anomaly which has received attention only in recent years is enterogenous mesenteric cysts. Their literature is almost entirely foreign; about 100 papers have been published since 1900. Enterogenous mesenteric cysts are of considerable surgical importance, but have probably never been diagnosed before operation or necropsy, and their mortality is about 35 per cent. In the *Johns Hopkins Hospital Bulletin* for October Dr. R. T. Miller has reported the following case. A female child, aged 4 days, was admitted into St. Francis Hospital, Pittsburgh, on Sept. 28th, 1912. She was the last of 13 children, all of whom, as well as the parents, were alive and well. Labour was normal. The child vomited everything taken, and the vomit was greenish-black. The bowels never acted, and there was no stain on the napkin. On examination she looked very ill. At intervals she cried in a thin weak voice as though suffering from paroxysms of pain. There was marked cyanosis of the face and hands. The skin was dry and wrinkled, especially over the extremities. The expression was pinched and drawn, and the limbs were little moved. The abdomen was not distended, and there was no visible peristalsis. Palpation caused the child to cry and was unsatisfactory. No mass could be felt or muscular spasm recognised. The abdomen generally was tympanitic, and there was no dulness in the flanks. The little finger could be inserted its full length *into the rectum without encountering any obstruction.* The rectal temperature was 97° F. Intestinal obstruction due to some unknown cause was diagnosed. Under chloroform a right rectus incision was made. On opening the peritoneum both dilated and collapsed cyanotic loops of small intestine were seen. In the right flank just below the level of the umbilicus a freely movable mass was found. This proved to be an oval intramesenteric tumour, about 4 cm. in its greatest diameter, and quite firm. Over the dome of the mass coursed a loop of small intestine which was flattened into a thin band by pressure. There was a volvulus of the mass and affected sector of the bowel of more than 180°, causing complete intestinal obstruction. The afferent bowel was greatly dilated and the efferent bowel collapsed. After reduction of the volvulus a circumferential area of pressure necrosis with a minute perforation was found. The patient's condition demanded haste, but a rapid enterostomy was not feasible as the obstruction was high in the jejunum. Resection and lateral anastomosis were hurriedly performed and the abdomen closed. Death occurred five hours after the operation. The tissue removed consisted of a loop of bowel 8 cm. long, within the mesentery of which was an egg-shaped mass measuring 4 by 3 cm. This was a cyst the wall of which was in part directly continuous with that of the jejunum. The cyst was lined with a *layer of columnar* epithelial cells bearing villi and resting upon a layer analogous to the submucosa, outside which were transverse and longitudinal layers of smooth muscular fibres. The structure of the cyst was thus exactly similar to that of the bowel, from which it had evidently been formed by sequestration during embryonic life. The adjacent portion of bowel was so stretched that its lumen was represented by a mere slit. In 1907 Niosi gave what appears to be the best classification of mesenteric cysts of embryonic origin, which is as follows. 1. Cysts of intestinal origin—(*a*) by sequestration from the bowel during development; and (*b*) from Meckel's diverticulum. 2. Dermoid cysts. 3. Cysts arising from retroperitoneal organs (germinal epithelium, ovary, Wolffian body, Müllerian duct). The idea that a portion of an embryonic organ may become sequestrated and continue to develop, usually in an anomalous manner, is familiar. The lumen of the cyst constantly but slowly enlarges in consequence of retention of its own secretion. The actual process of sequestration from the developing gut was not observed until 1908, when Lewis and Thyng described the "regular occurrence of intestinal diverticula in embryos of the pig, rabbit, and man." These diverticula consist of downgrowths of the intestinal epithelium which may terminate in the muscular coat of the bowel or may extend quite through the bowel wall to form knob-like projections. They usually degenerate and disappear, but if one persists it may give rise to a mesenteric cyst. The surgical importance of mesenteric cysts lies in their liability to give rise to acute intestinal obstruction. The best treatment is enucleation when it can be done without seriously injuring or opening the bowel.

THE REGISTRATION OF PLUMBERS.

From a strictly medical standpoint the plumber is well deserving the attention he has received within recent times, but more is required to safeguard the public against possible evils likely to arise from incompetence or carelessness on the part of men engaged in plumber's work. Mr. W. D. Caroe, R.I.B.A., Master of the Worshipful Company of Plumbers, speaking at the Royal Technical College, Glasgow, impressed upon his audience that merely registering the men was not sufficient. Responsibility should be fixed on each man for the work he has executed, and this could only be done by every individual marking his work with his registered number. Mr. Caroe thought that every skilful man would be proud to identify himself with his work. The employment of registered plumbers would then stand as a guarantee of efficiency. It unfortunately happens that a great number, perhaps a majority, of those engaged in the plumbing trade are at present not registered, and have therefore no certificate to offer to the public in proof of their capacity for discharging efficiently and conscientiously the important work in which they are engaged, though doubtless many would experience no difficulty in passing the required tests. Mr. Caroe pointed out that the complexity of plumbers' work in modern times had so increased that it was more than a handicraft—he evidently considered it to be almost a branch of practical scientific work, and much can be said for the view. He urged, therefore, on educational authorities the need of providing technical instruction in harmony with the registration system, while the system of apprenticeship should be encouraged. To the men he pointed out that they should claim the privilege of their craft and qualify for registration, setting aside petty disputes and concentrating their attention on the lifting of a responsible handicraft to its merited position. All this we endorse. Unfortunately the bulk of the public, until some catastrophe happens through his carelessness or incompetence, regard the plumber and his work with little interest. The blame for any mischance which should rest upon their own lazy shoulders is shifted anywhere else. Properly qualified men can always be obtained for plumbing work if sufficient interest is exhibited by the employer in the way in which plans are executed, and registration is the obvious method by which a good supply of men can be kept up to the standard. If only this was kept in view every capable plumber would get himself registered, in order to be distinguished from the mass, some of whom may be ignorant or incompetent workmen. Under certain conditions the Plumbers' Company guarantee the work of their registered men. At present all registered men carry a card with their number on the register. It has been suggested that it would be desirable if each man wore a badge, the absence of which would put the public on their guard. This is the day of badges, and only the demand for registered plumbers will create the supply. The suggestion has practical force.

HEALTH OF THE POST OFFICE STAFF.

In his annual report the P [illegible] s that the health of the staff has a [illegible] .. The average sick-rate of the established staff during the year ended Dec. 31st, 1912, was 7·5 days for men and 10 9 days for women, and of the unestablished staff 4·6 days for men and 4·9 days for women. Seventy-five deaths and 111 retirements were due to diseases of tuberculous origin. The deaths recorded through the year showed an annual death-rate of 3·4 per 1000 for men and 1·3 for women on the established staff.

THE WILLIAM H. WELCH ENDOWMENT FOR CLINICAL RESEARCH.

The magnificent gift by the General Education Board, founded by Mr. John D. Rockefeller, of $1,500,000, to provide professorial salaries in connexion with the Johns Hopkins Hospital and Medical School at Baltimore, marks an era in medical education. A professor of medicine, a professor of surgery, and a professor of pædiatrics are to be provided by the new endowment with salaries sufficiently high to make them independent of private work, and with a staff of assistants and laboratories, and are to devote themselves to scientific research in their respective departments. Dr. William Stewart Halsted, the present holder of the chair of surgery, has already accepted his chair under the new conditions. In view of the recent report upon the affairs of the University of London, the institution of these salaried professorships is of the first interest.

THE DIFFICULTIES OF DIAGNOSIS IN ANOMALOUS PLAGUE.

In another part of our present issue we publish a very interesting and instructive communication by Dr. W. J. Tulloch, of Newcastle-on-Tyne, on the bacteriological diagnosis of plague, and in this he draws attention to the many difficulties which exist in recognising cases of plague which may arrive on our shores on healthy ships from foreign ports not known to be infected. Dr. Tulloch urges the examination by blood culture as a method to be adopted in all doubtful cases, and if used as a routine procedure in the indefinite febrile illnesses which occur on board ships it would, he contends, be found a valuable aid to diagnosis. The particular instance so carefully described by Dr. Tulloch occurred on a ship in the Tyne. The strain of the plague infection appears to have been peculiar, since two other cases of illness had previously occurred on the same vessel while it was lying in the Elbe and just before it sailed for the Tyne. The first case was diagnosed as influenza, but proved fatal on the third day; the second case had symptoms suggestive of enteric fever, the illness lasting 23 days before it terminated fatally. Post-mortem examination with bacteriological investigation of material ultimately established a diagnosis of plague in each case. The vessel in question with a cargo of grain, which is known to attract rats to the ship while it is loading, sailed for Hamburg from the Argentine port of Rosario, which has long been under suspicion in Europe of concealing the prevalence of plague in man and the rat in that place. The ship carried four apprentices, who occupied a cabin at the stern of the vessel far removed from the quarters of the crew. The lads had a pet rabbit which was infested by fleas; it died while the ship was in the Elbe. It is conjectured that infected rats came on board at Rosario with the cargo; and that towards the end of the voyage the rabbit contracted the disease from the rats and conveyed it to three out of the four boys who were accustomed to play daily with their infected pet. The strain of infection, though peculiar in its manifestations, was nevertheless of a virulent kind, as all three apprentices died from it.

THE LONDON COUNTY COUNCIL AND THE TREATMENT OF TUBERCULOSIS.

THE London County Council, which has now apparently accepted the view of the Local Government Board that it, and it alone, should constitute the tuberculosis authority for the metropolis, is finding the preparation of a comprehensive scheme a task of much difficulty. For over a year the Public Health Committee of the Council has been engaged upon the problem of sanatorium benefit in London, and, as reported in our columns from time to time, the Council has had before it various recommendations. But the matter progresses slowly amidst the sharp differences of opinion, upon principle as well as detail, which are revealed in debate. London still lacks, even in outline, a coördinated scheme for dealing with its estimated 60,000 tuberculous inhabitants. At its last meeting on Nov. 4th the London County Council discussed the financial basis of that part of the Public Health Committee's report which concerns dispensary treatment of uninsured persons, and eventually some measure of agreement was reached. But the formulation and the carrying into early effect of a complete tuberculosis scheme for the metropolis are such pressing affairs that we may well ask all political parties within the Council to eschew recriminations and keep strictly to the business in hand.

THE IODINE CONTENT OF FISH THYROIDS.

THE observation that a fish diet increased the iodine content of a dog's thyroid was made some time ago. The constant presence of iodine in sea water has suggested that the thyroid of salt-water fishes might contain a relatively large amount of iodine. If iodine is present in sea water as suggested by Gautier in organic combination it is probable that the iodo-organic compound is capable of assimilation and transmission. It now appears from an interesting note upon this subject by Mr Alexander T. Cameron, published in the October number of the *Biochemical Journal*, that definite evidence has been obtained that unusually large amounts of iodine are constantly present in some species, a finding which lends some support to the view that the iodine content of the thyroid is a function of iodine in the diet. In the specimens of fishes selected for analysis the thyroid of the *raia clavata* was found to contain amounts which were not extraordinary compared with that found in the thyroid of the mammals, but the thyroid of scyllium canicula contained more, and in one case much more, iodine than any thyroid previously reported upon. Thus, accepting the following figures for the dog as 0·692 per cent. on dried gland, 0·588 per cent. for the human gland, 0·531 per cent. for the gland of the pig, 0·53 per cent. for the gland of the sheep, and 0·477 for the gland of the ox, the fish thyroid referred to contained as much as 1·160 per cent. of iodine. This is, of course, a very remarkable amount, and further investigations in this direction will be looked forward to with interest. The research, so far, suggests that fish thyroid would be a valuable therapeutic agent, and would appear to add strength to the view that the iodine value of the diet plays a considerable rôle in determining that of the gland.

SIR RICKMAN GODLEE'S VISIT TO THE UNITED STATES AND CANADA.

Sir Rickman Godlee, President of the Royal College of Surgeons of England, accompanied by Lady Godlee, left at the end of October for Chicago, where he is to give an address at the first congregation of the American College of Surgeons and admit the Fellows of the new college. The address will take the form of a historical sketch of the English College of Surgeons, and will detail the circumstances in which the order of Fellows came into being. Sir Rickman Godlee hopes to avail himself of an invitation to visit Toronto, where a number of Fellows and Members of the English College are resident.

THE GENERAL MEDICAL COUNCIL.

THE next session of the General Council of Medical Education and Registration is announced to begin on Tuesday, Nov. 25th. The illness of the President, Sir Donald MacAlister, has now taken a favourable turn, but he will be unable to attend the Council. A chairman will be elected for the forthcoming session, a precedent for which proceeding occurred during the illness of Sir Richard Quain in the autumn of 1897. There will be no change in the plans for the forthcoming session.

Sir Thomas Oliver will deliver a course of six lectures on "Industrial Hygiene" at the Royal Institute of Public Health, the first two of which will be given on Wednesday and Thursday, Nov. 12th and 13th, at 5 P.M.

THE King has approved the appointment of Surgeon-General Arthur Thomas Sloggett, Director of Medical Services in India, to the post of Director-General of the Army Medical Service, in succession to Surgeon-General Sir W. Launcelot Gubbins, whose term of office will shortly expire.

A SPECIAL meeting of the Representative Body of the British Medical Association has been summoned for Thursday, Dec 4th, and if necessary Friday, Dec 5th, at the Connaught Rooms, Great Queen-street, London, W.C. The business before the meeting includes the proposal to raise the annual subscription to 2 guineas; the alternative schemes of the State Sickness Insurance Committee and the National Insurance Act Committee for the establishment of a special fund for professional organisation; and the Council's report on various matters relating to the National Insurance Act.

THE King, acting on the recommendation of the Home Secretary, has appointed the following to be paid Commissioners under the Mental Deficiency Act, 1913: Sir William Byrne, Dr. Arthur Rotherham (medical superintendent of Darenth Asylum), and Miss Mary Dendy. The four unpaid Commissioners have yet to be appointed. The new Board of Control under the Act consists of Sir William Byrne (chairman), Dr. Rotherham, Miss Dendy, and Mr. B. T. Hodgson (secretary to the Board of Commissioners in Lunacy), together with Dr. C. Hubert Bond, Dr. Frederick Needham, Dr. E. M. Cooke, Dr. Sidney Coupland, Mr. L. L. Shadwell, Mr. A. H. Trevor, and Mr. S. J. F. Macleod, K.C. (Commissioners in Lunacy).

RESEARCH WORK IN INSANITY AND THE STUDY OF CURATIVE TREATMENT OF THE INSANE.[1]

BY H. OSWALD SMITH, M.B., CH.B. EDIN.,

MEMBER OF THE STANDING LUNACY COMMITTEE OF THE SURREY COUNTY COUNCIL; MEMBER OF THE NETHERNE VISITING LUNACY COMMITTEE, CURATIVE RESEARCH, AND MENTAL DEFICIENCY COMMITTEES.

A Report to Establish and Organise a Research Laboratory at Netherne Asylum.

THIS report is based on methods adopted by several of the large asylums, at the heads of which are medical men who have advanced psychiatry to a much more hopeful position, and whose efforts are still being maintained along these channels of research whereby new methods of treatment are evolved for the benefit of the mentally afflicted.

An asylum ought not to be merely a place where patients are well cared for and housed, but must have a definite plan so that research work is undertaken by a specially appointed officer who is enthusiastic about his work and efficient in the present-day technique of research work in psychiatry. He should have the proper facilities in a well-equipped laboratory for laboratory diagnosis and study. There must, however, be cooperation between this officer and the resident staff in the work. The primary duty of the resident staff is —(1) the proper examination, (2) treatment, and (3) care of the patients. This work provides infinite lines for study and research for the medical staff, provided always that their primary duties do not take up their whole time. It is well known that certain men who are interested in research work will make time for such extra duties; thus they keep abreast of medical progress and form their own judgment as to the permanent value of the latest advances and ideas.

There are many lines of a clinical and therapeutical nature that can be most appropriately followed out by the ordinary staff. At the same time it is of the greatest advantage to county asylums, such as Netherne, that a fairly equipped laboratory should be regarded as essential. If the ordinary medical staff find that their time is so fully taken up with the ordinary work in the wards that they have not time or that they have not the necessary technical training to do laboratory work—as to the amount of medical work in an asylum the annual admission rate gives a fair indication of the amount of work to be undertaken—a pathologist should be provided at a salary of not less than £250 a year to begin with, in order to get a really good and efficient man, because the ultimate research work would rest largely in his hands. If the assistant medical officers have time to follow up a clinical and therapeutical research, then such an appointment would bear good results, but if the medical staff have not the necessary time, then instead of a pathologist the appointment of a laboratory physician might be made at an initial salary of £250 a year.

This physician could have the laboratory fitted up according to his special requirements, and such sum as £250 as a preliminary outlay would be sufficient. It is only after years of time, thought, and expenditure of money that curative research has reached the high-water mark obtained in such asylums as the Lancashire County Asylum, at Prestwich, the Crichton Royal Institution, and the Edinburgh Royal Asylum. The knowledge of curative research is added to slowly, but if such a scheme as the above is adopted at Netherne the committee will have the benefit of the research work of these asylums and the practical results. When Netherne earns such a report from the Commissioners in Lunacy as the Crichton Royal Institution did for 1912, then, and not till then, shall we be able to say that the patients at Netherne are receiving the most appropriate treatment. If the total expenditure on research work be divided by the average amount of patients under treatment a year it will be found that the general cost per caput per annum for the purposes of laboratory diagnosis, study, and research is not a fraction of the cost of each patient's keep, and such expenditure would be well worth it.

Estimate (apart from cost of building) of initial expenditure for the
urative research work at Netherne.
of £250 a year, with residence; or at a salary
side.
A further sum of £250 for initial expenditure in fitting up a
the coöperation of the resident medica
nd therapeutical treatment.
meanwhile the appointment of a—

Laboratory physician at an initial salary of £250 a year, with residence; or £300 a year outside.

A sum or £250 for initial expenditure in fitting up a laboratory.

Forms of application for the above post, whichever is decided upon, can be subsequently drawn up so as to get the best candidates.

Organotherapy.

The second part of this report deals with organotherapy and the open-air treatment of the active insane by rest in bed. The committee must look to the resident medical staff to carry out this part of the work. In psychiatry and neurology great advances have been made, and these are due to the whole-hearted efforts of men who have ever kept the flag of research flying. There opens out the vista of organotherapy, and by this is meant the employment of certain glandular extracts in the treatment of insanity. Thyroid extract, cerebral extract, mammary, pancreatic, ovarian, pituitary and orchitic extracts, these are some which have been used and experimented with by psychiatrists. It is known that causes of cretinism can be combated by the use of thyroid, and Brown-Séquard maintained that he had "rejuvenated" himself by orchitic extract. Myxœdema, due to the absence of the thyroid gland, can be cured by the administration of thyroid extract. Cerebral extract is found to promote the appetite, and is a good tonic to the general nervous system. These are some examples of the research work placed at the disposal of humanity and obtained by means of work in the laboratory. The committee should expect coöperative research to be based on these lines, which should also embrace the bacteriological examination of the blood and cerebro-spinal fluid, the conditions of which have an important bearing on general paralysis of the insane. The use of vaccines and antisera would have to be investigated.

Administrative duties have become so heavy that it is impossible in many cases for the medical superintendent to give much attention to clinical work, and so we must expect the assistant medical officers who have adopted lunacy service as a specialty to be properly trained in up-to-date knowledge of the treatment of the insane. Post-graduate courses are provided in connexion with most of the universities.

Open-air Treatment by Rest in Bed.

And finally there must be placed on record an estimate of a form of treatment of the insane from which there is expected brilliant results. It is the open-air treatment of the active insane by rest in bed. This treatment can be carried out by the staff without undue strain on their time and little additional expenditure of money. It has been carried out with great success at Ayr Asylum with a resulting increase in the recovery rate Verandahs are used on the male and female sides. Separate beds with wooden partitions are placed on these verandahs. (Details of the scheme can be supplied.)

What are the effects of rest in bed in the open air in the case of newly admitted and actively insane patients, and wherein do the effects of outdoor rest in bed differ from those of outdoor exercise and indoor rest? First and foremost, there is a rapid subsidence of the active mental and nervous symptoms, there is a rapid amelioration of mania, melancholia, delirium, vivid hallucinatory and delusional manifestations, of restlessness and excitement of all kinds and insomnia. The general effect is that the large majority of newly admitted patients show distinct improvement of various morbid mental states, become less restless, more manageable, and more contented, and regain their sleep with greater rapidity than with any other known method. Secondly, there is a rapid improvement in the physical condition, a noticeable improvement in the condition of the skin, the appetite improves, and the majority readily take their food and do not require to be spoon-fed as is usual with new patients; a distinct improvement in the state of the tongue and gastric digestion if previously impaired. Hypnotics, sedatives, and laxatives can under this treatment be dispensed with. The increase in the body weight is 5 lb., 6lb., or 7 lb. during the first two or three weeks on simple diet, consisting largely of milk and milk-puddings.

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[1] Being a report to establish and organise a research laboratory at Netherne Asylum, with remarks upon the open-air treatment of the insane and organic therapy treatment. The report was adopted by the Standing Lunacy Committee of the Surrey county council on July 7th, 1913.

Similar treatment can be adopted in the cases of all residents of shorter or longer standing, exhibiting relapses or phases of active insanity, including the most difficult and dangerous cases in the asylum. The wooden partitions already alluded to add the valuable feature of isolation to the treatment. The recovery rate is remarkably influenced by this treatment. From the description of the open-air treatment of the insane it will be at once seen that the combination of rest in bed with open-air treatment secures the natural rest to the nervous system and gives the patients in their initial treatment a good chance of recovery; the cost in mere money would be very little in comparison to the benefits. It is a pleasant remedy, both to those who receive the treatment and those who administer it. In placing these points before you, I wi [illegible] I have received from many c [illegible] have willingly placed their [illegible] benefit of the committee. I [illegible] many of the special papers p [illegible] The length of the report is owing to the difficulties of the subject which has been *too* inadequately handled by me.

The Recovery Rate and the Cost of the Schemes.

The recovery rate for 1912 on all admissions into the Crichton Royal Institute was 35·5 per cent.; the Edinburgh Royal Asylum 36·0 per cent. In both these institutions research work is diligently carried on. The recovery rate on all admissions into Netherne Asylum for 1909 to 1912 was 12·0 per cent; Brookwood Asylum for 45½ years, 24·6 per cent. In future the annual recovery rate should be placed on record, so that a just and fair comparative result may be available.

It is therefore necessary to deal with curative research at Netherne Asylum from the practical point of view so far as cost is concerned. Dr. S. N. Crowther, senior medical officer of Netherne, has worked out the cost of a scheme which includes buildings, fittings, salaries, and upkeep. This scheme embraces the cost of open-air treatment of the insane by rest in bed and the proper grading of the insane.

Summary of annual cost per head per week.—(1) Curative research, 2·51*d.*; (2) open air treatment, 1·35*d.*; (3) grading of patients, 4·03*d* —[illegible] 0; [illegible]

The Grading of Patients.

The attention to the proper grading of patients in all asylums is called for. Asylum patients may be divided into two main classes—(1) curable and (2) incurable; and while for those of the first class every means known to science should be used to facilitate recovery, the treatment of the second class is not so important, and the present method of grading is on the whole satisfactory. It is mainly the extra cost which has hitherto deterred the asylum authorities from proper grading of patients. It was usual to distribute a certain number of noisy and excited patients among those who were miserable and depressed, with the hope that an interaction might take place to the mutual benefit of the patients concerned. Such [illegible] background, and it is only [illegible] treatment, stimulated by [illegible] take the long-awaited step forward.

I wish to thank Dr. Crowther for his help and valuable suggestions in the preparation of my paper.

ROYAL ARMY MEDICAL COLLEGE.

ON Oct. 29th a distribution of prizes by Surgeon-General Sir HAVELOCK CHARLES, G.C.V.O., took place at the Royal Army Medical College. A large company assembled to do honour to the occasion, among them being Surgeon-Generals W. Donovan, Sir David Bruce, G. J. H. Evatt, H. R. Whitehead, W. H. Macnamara, Sir Francis Trevor, and Sir Charles Cuffe, A. W. May (Director-General of the Medical D [illegible] Barker, and Dr. F. W. Mott.

Surgeon-General W. BABTIE, V.C., C.B., C.M.G., Deputy Director-General, opened the proceedings by calling upon the Commandant to read his report.

Colonel BRUCE M. SKINNER, M.V.O. (Commandant), reviewed the session, the 106th of the junior class of the College, being also the twenty-third held in London. After referring to the Seventeenth International Congress of Medicine, the Naval and Military Section of which held its meetings at the College, he said there had been some changes in the staff. While regretting the completion of tenure of their appointments, they of the College wished God-speed to Major W. S. Harrison, lately professor of tropical medicine, and to Major J. C. Kennedy, assistant professor of pathology, with the hope that their talents so long devoted to this College might find fields fruitful of discovery awaiting the application of their highly trained energies. On the other hand, they welcomed their successors, Lieutenant-Colonel O. L. Robinson in the chair of tropical medicine, and Major S. L. Cummins as assistant professor of pathology. With regard to the class now being closed he reminded those present that they were fully qualified doctors before passing into the College, where they had been instructed in matters relating especially to the preservation of health and physical well-being of the soldier. He had nothing but praise for the young officers who composed this class, for they had been most assiduous and attentive, while those who had gained prizes had done remarkably well, and in two cases brilliantly, for instance, the winner of the Fayrer and the Marshall Webb medals had gained over 90 per cent. of marks in those competitions. He then read the names of those who had gained prizes, as well as those who came second, as follows:—

	Marks.
1st. The Herbert Prize (highest total of marks): Lieutenant R. B. Price, R.A.M.C.	565/700
Proxime accessit: Lieutenant H. C. D. Rankin, R.A.M.C....	536/700
Hygiene.	
1st. Parkes Memorial. [illegible]	153/200
Proxime accessit: [illegible]	151/200
2nd. De Chaumont: L[illegible]	144/200
Proxime accessit: [illegible]	142/200
Pathology.	
1st. Fayrer Prize: [illegible]	181/200
Proxime accessi[illegible]	160/200
2nd. Tulloch Memo[illegible]	168/200
Proxime accessi[illegible]	164/200
Surgery.	
1st. Montefiore: Lieutenant A. Seddon, I.M.S.	80/100
2nd. Montefiore: Lieutenant H. C. D. Rankin, R.A.M.C.	75/100
Tropical Medicine.	
1st. Ranald Martin Gold Medal: Lieutenant A. K. Sinha, I.M.S.	86/100
Proxime accessit: Lieutenant R. B. Price, R.A.M.C.	84/100
Administration.	
1st. Marshall Webb Prize: Lieutenant H. C. D. Rankin, R.A.M.C.	97/100
Proxime accessit: Lieutenant R. B. Price, R.A.M.C.	88/100

Sir HAVELOCK CHARLES next distributed the prizes with a [illegible] recipient, and in his address [illegible] ouraged the young officers as [illegible] his remarks more particularly to those whose careers would lie in India. He said it was often asked why in life the race was not always to the swift nor the battle to the strong; the reason was that some men had not the tact and judgment to avail themselves of the chance when it offered. They failed through lack of character. The greatest of all assets was character. He was present at a similar meeting to this 31 years ago, and though he could not recall that any address was given on that occasion, [illegible] to town he travelled with [illegible] asked as to how to get o [illegible] a few seconds Sir Joseph Fayrer said: "Do what you are told; don't grumble; go where you are ordered." Of course, young men going to India would have troubles like everyone else, like the panel [illegible] Harley-street; but they [illegible] advice; and, further, th[illegible] thoroughly reliable—a most valuable characteristic for every officer. They were going to what he considered the most interesting country in the world. He wished them the best of good luck in the words of the Persian poet who said: "May the sweet waters of contentment spring up where'er you place your feet."

Surgeon-General BABTIE thanked the General Officer

He advised the greatest generosity to be extended to the injured worker, while at the same time the malingerer should be detected and exposed. His idea was that the injured man's doctor and the doctor of the insurance company (and this really represented the employer) should meet in consultation exactly as in any other occurrence of disease or accident, and decide on the case after discussion. Dr. Mitchell pointed out that in fractures two X ray photographs should be taken in different planes, and showed that unless this was done mistakes might arise, and he suggested that the insurance companies would be wise in their own interests to have an X ray installation fitted up and have radiographs taken. Finally, Dr. Mitchell exhibited a series of most interesting photographs which showed how much work could be done by people who had sustained great injuries to their hands. A hearty vote of thanks was passed to Dr. Mitchell for his address, which was rendered very much more interesting by an excellent series of lantern slides.

A resolution was subsequently carried to make Dr. J. Walton Browne, D.L., an honorary Fellow of the society.

A Correction.

In this correspondence last week there is an error on p. 1281, second column, four lines from bottom. The year 1900 should be *1909*. The year was given correctly in THE LANCET of Oct. 4th, 1913, p. 1025, in a note on the health of Belfast during 1912.

Nov. 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Hygiene of the Barber's Shop.

AT the last meeting of the Société de Prophylaxie Sanitaire et Morale, on the request of the Syndicat des Coiffeurs, Dr. Fonquet read a paper on the transmission of infection by hairdressers and their implements and the hygienic precautions to be recommended by the society in reference thereto. Dr. Fonquet recommended that cutting instruments should be washed in a 1 per cent. solution of carbonate of soda and wiped with a dry cloth. Brushes, combs, and shaving brushes should be freed from accumulated grease each evening by washing in ammoniated soap-water. Metallic instruments should be passed rapidly through a flame before being used again. Brushes and combs should be kept in a hermetically sealed retainer containing a saucer of 40 per cent. solution of formol. Rice powder should be applied only by means of a pad of sterilised cotton-wool, which should be destroyed at once. For the piece of alum commonly applied to cuts and abrasions in different persons powdered alum should be substituted, applied as above with cotton-wool, which should be destroyed after use. Barbers must be forbidden to sharpen their razors by stropping them on the palms of their hands. Regular customers should, if possible, have their own individual apparatus kept for their use alone. The society will be called on to consider these proposed measures and to submit them to the Conseil d'Hygiène with a view to their publication as a compulsory regulation for all barbers, to be posted in their shops. Of course, opposition to these measures is foreseen. Some time ago an attempt was made to impose the employment of a dry heat stove, heated by gas, in which scissors, razors, &c., were to be placed between their use on different persons. In practice for the most part the stove served only as a bid for confidence on the part of the customer, for the same razor and the same scissors always remained in it, while those used were spread out on a table, ostensibly having been sterilised and allowed to cool. Dr. Fouquet accompanied his report with microbiological evidence showing the need for the proposed measures. It had long been known, he pointed out, that syphilis, furunculosis, tinea, and perhaps alopecia, and other contagious diseases of the skin and scalp were transmitted at the barber's. M. Langlais had obtained from a shaving brush taken from a respectable barber's a culture containing 160,000 bacteria per c.c.; and the same observer showed that a razor before being rinsed furnished 7000 bacteria and 26,000 after having been stropped on the hand. As to the piece of alum Dr Remlinger had obtained 66,000 bacteria per c.c. from sterilised water in which it was dissolved.

The Use of Oxygen in the Insane.

Dr. Toulouse, of the lunatic asylum of Villejuif, has made, in conjunction with his assistant Dr. Puillet, some very interesting observations in reference to the use of subcutaneous injections of oxygen in persons suffering from nervous exhaustion, and even from mental diseases. In various cases of mental confusion with agitation, excitement, and insomnia, Dr. Toulouse has obtained remarkable results. The more acute the condition the more clearly marked are the effects. In simple cases of nervous exhaustion and in epileptics he had also had good results, though less marked and more transitory. The patients themselves, on regaining reason, described the sensation of well-being and immediate relief that followed the oxygen injections. The ultimate bearing of this method cannot yet be definitely settled, but it is worthy of study, at least in those cases in which an intoxication or an infection, which the organism cannot throw off, appears able to improve under very energetic oxidation. Dr. Toulouse does not despair of the successful use of this treatment even in cases of simple mental alienation.

Infant Mortality.

The report of Professor Achard to the Académie de Médecine on the working of the inspection of children of tender years has disclosed the fact that in 1911 the deaths of young children were 20,000 in excess of the usual average. This deplorable fact is attributed to the exceptional heat of the summer, and especially to an epizootic of aphthous fever which at that time attacked the cows in some parts of France, gravely altering the quality of their milk. The same causes have, moreover, led to similar results in neighbouring countries. These causes are temporary, and the later statistics already suggest a return towards the normal mortality. Professor Achard's report also confirms the statement of M. Pinard at the Académie de Médecine that in the provinces the use of the feeding-bottle was largely replacing breast nourishment. The *loi Roussel* forbids a wet nurse engaging herself out before her own child is 7 months old. This law, in force now for 15 years, is causing the almost total disappearance of hired wet nurses. The Academy, therefore, is considering at present a proposition to reduce to four months the time during which the nurse must reserve her milk for her own child.

Death of Professor Le Double.

Professor Le Double, of Tours, died recently from accidental asphyxia with carbon monoxide, the result of a defective heating apparatus. He was born in 1848 and studied medicine in Paris. He settled at Tours, where he became surgeon to the General Hospital in 1878 and professor of anatomy at the Medical School in 1888. In 1898 he was elected a corresponding member of the Académie de Médecine. He was one of the first anatomists of his time. His innumerable dissections revealed a large number and variety of anomalies in the disposition of the osseous and muscular systems and of the veins. He also published some notable volumes on morphological and historical questions relating to medicine. His work (in conjunction with Dr. F. Houssay) on the hairy type in the human race (*Les Vélus*) was very appreciatively reviewed in THE LANCET of August 10th, 1912. He also wrote on prehistoric medicine and surgery, on Rabelais as an anatomist and physiologist, and on Bossuet as an anatomist.

Nov. 3rd.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

A Magnificent Gift to the Johns Hopkins Medical School.

THE Johns Hopkins Medical School has received $1,500,000 from the General Education Board, which draws its supplies from Mr. John D Rockefeller. This is the biggest gift which the Board has made as yet to any one institution. The new foundation will be called the William H. Welch Endowment for Clinical Education and Research, in recognition of the great services rendered by Dr. Welch for medical education in America. The interest of the money is to be used for the salaries of the professors of medicine, surgery, and pædiatrics, their associates and assistants, and to provide the laboratories and clinical paraphernalia to enable them to carry on their work. The salaries paid will be fixed so as to give the holders an adequate sum for comfortable living, and they will be required to resign all private practice and to devote their lives to the work of research, investigation, and teaching. It is understood that the services of the three selected professors will be available for the public in certain circumstances, but gratuitously. Dr. W. S. Halsted, the present professor of surgery, has agreed to retain his chair under the new conditions.

A Urological Clinic for Johns Hopkins Hospital.

Mr. J. B. Brady recently offered to Johns Hopkins Hospital, Baltimore, the sum of £50,000 for the establishment of a special urological clinic. The first steps towards utilising this gift have now been taken, and contracts have been awarded for the erection of the building, which will occupy three storeys with a roof garden. Dr. Hugh H. Young is to have the direction of the clinic, which it is expected will be open to receive patients within a year.

The Study of Criminology.

Steps are being taken for the organisation of a National Society for the Study of Criminology, which is to be composed of psychologists, sociologists, and medical experts. The study of criminology is becoming more widely extended, and evidences of an awakening in regard to it are forthcoming from many quarters. Among others mention may be made of the recommendations of the Committee on Criminal Punishment of the Chicago Medical Society, suggesting the separation at all times of misdemeanants from felons; the hastening of grand jury and final trials; the extension of the reformatory idea to all criminals except incorrigibles and those charged with capital offences; the appointment of an Illinois State Sentencing Committee to classify all criminals; and the arousing of the interest of the women of the State in their sisters who have undergone penal sentence, with a view to preventing their drifting in crime or vice.

A Woman Research Fellow at Yale University.

Th[illegible] lish [illegible] Pou[illegible] the Scandinavian countries and the United States, has established six Fellowships, to which nominations are made by th[illegible]nts, to enable Scandi[illegible] work in the American [illegible]nent has recently appointed the first woman Fellow, in the person of Miss Ellen Gleditsch, a pupil and associate of Madame Curie in Paris, to study radio-activity in the laboratories of Yale University.

Colonel Gorgas goes to South Africa.

Colonel Gorgas, of the United States Army, whose work as a sanitarian in subduing yellow fever in Cuba and later in rendering possible by sanitary measures the completion of the Panama Canal, where he is chief sanitary officer of the Canal Zone, has received leave of absence to proceed to South Africa to investigate the conditions obtaining in the mines there, where the mortality is notoriously heavy. Colonel Gorgas is a charming colleague, and will doubtless be heartily welcomed by the medical authorities in charge.

The late Dr. James Egan, of Springfield, Ill.

Dr. James Egan, who died from nephritis a little while ago in Springfield, Ill., aged 53, had served as secretary of the Illinois State Board of Health since 1897. Since 1901 he had also been a member of the Board and since 1909 its treasurer. He was an aggressive opponent of illegal practitioners of medicine, incompetent midwives, and "diploma mills." He was a native of Massachusetts but came to Illinois in 1887, and graduated in medicine at the Northwestern University Medical School (then the Chicago Medical College) in 1893. For four years he held appointments under the Chicago Health Department, becoming later secretary of the State Board of Health of Illinois. He was a first lieutenant of the U.S. Army Medical Reserve Corps. Notwithstanding a certain aggressive combativeness of disposition he made many firm and devoted friends to whom his loyal nature endeared him. THE LANCET has on more than one occasion commented editorially on the sensible and practical *Bulletins* which he issued from the Illinois State Board of Health.

Death of Professor Reginald Heber Fitz.

In the death of Dr. Reginald Heber Fitz, which took place recently from gastric ulcer, the medical profession in America loses one of its distinguished pathologists. Dr. Fitz, who was born in Massachusetts in 1842, graduated at Harvard University, and studied subsequently in Vienna, Berlin, Paris, and London. On his return to America he was appointed to the staff of the Massachusetts General Hospital in Boston and became instructor, and subsequently professor, of pathological anatomy in the Medical School of Harvard. In 1877 he became physician to the hospital, and in 1892 professor of medicine at Harvard. He did pioneer work on appendicitis and on pancreatic diseases.

Oct. 25th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

First Dominion Medical Council Examinations.

Dr. R. W. Powell, registrar, Dominion Medical Council, Ottawa, announces the results of the examinations held in Montreal on Oct. 7th. Seventy-one candidates presented themselves and 44 were successful. Eight were referred to the Council, having failed to qualify in not more than two subjects, and 19 were rejected. Most of the successful candidates were from the provinces of Ontario and Quebec. New Brunswick furnished 1, Alberta 1, British Columbia 1, and 2 were from the United States.

Winnipeg General Hospital.

A by-law will be submitted to the ratepayers of Winnipeg, Manitoba, in December for $275,000 for the purposes of the General Hospital. Recently a new wing was opened and other extensive additions made which bring the capacity of the hospital up to 478 beds. The cost of these additions approximated $605,000 on the main building, $54,000 on a nurses' home, and $14,000 on a new residence for the superintendent. Of the total amount only $460,000 have been received by the board of trustees, and as there is a mortgage of $60,000 not less than $275,000 will meet the present requirements. The provincial government will also likely be approached for a grant, as a good many patients come from different points throughout the province.

An Epidemic of Jaundice.

During the months of March and April, 1911, Dr. Malcolm Mackay, of Sherbrooke, Quebec, had 17 cases of acute jaundice under his care. Five were males and 12 females, and 13 of the total number were between the ages of 15 and 25 years. No two cases occurred in the same house. Hearing of other cases at the same time, Dr. Mackay sent a [illegible] ing 5 cases of every sort per annum to every 2000 according to *Leslie's statistics*, Sherbrooke should have had about 43 cases in the course of the year. But there were 99 cases reported in two months. In all the cases there were 34 males and 65 females. Of children under 15 years of age, there were 45 cases; 13 cases in adults over 25 years; the remaining 41 being between 15 and 25 years. More than one case in a house was reported six times by one physician, three times by another, and once by another, while a fourth had five cases in a small orphanage. The greater majority of the cases were found in one ward of the city. Dr. Mackay draws the following conclusions: The disease is infectious; gastro-enteritis is present; the jaundice is of the *obstructive type* characteristic of catarrhal jaundice; the disease is possibly contagious.

The Canadian Hospital Association.

The a[illegible] was held [illegible] to 22nd [illegible] superint[illegible] opening [illegible] discussi[illegible] coroner averred that the sale of these drugs had increased rapidly in the city during the past few years, and called for an amendment of the *Canadian criminal code* to deal with this question. The President regretted in his address that hospitals were so parsimonious that they would not send their superintendents to these annual meetings. He also

Communications, Letters, &c., have been received from—

A.—Messrs. Armour and Co., Lond.; Dr. E. L. Ash, Lond.; A. C. H.; Dr. N. S. Adler, Davos Platz; *Automobile Association and* Motor Union, Lond., Secretary of; Anglo-American Pharmaceutical Co., Lond.

B.—Mr. W. M. Browne, Sampford Peverell; Messrs. Brentano's, Paris; Burton-on-Trent Infirmary, Secretary of; Birmingham Children's Hospital, Secretary of; Mr. T. B. Browne, Lond.; Bristol University, Registrar of; Mr. Wm. Butterly, Londonderry; Messrs. Burroughs Wellcome and Co., Lond.; Messrs. Bedford and Co., Lond.; Rev. T. P. Brocklehurst, Giggleswick-in-Craven; Dr. A. Bernstein, Lond.; Dr. A. Barkan, Munich; Mr. H. Blakeway, Lond.

C.—Messrs. Casein, Ltd., Lond.; Mr. H. A. Collins, Croydon; Mr. J. L. Churchman, Menton; Messrs. J. and A. Churchill, Lond.; Cambridge County Council, Clerk to the; Dr. P. M. Conner, *Philadelphia*; Cornwall County Council, Truro, Secretary of; Dr. Maurice A. Cassidy, Lond.; Mr. Robert Cochrane, Edinburgh; Dr. H. P. Cholmeley, Westerham; Dr. H Warren Crowe, Yelverton.

D.—Captain A. H. T. Davis, R.A.M.C., Malappuram; Dr. A. Davies, Lond.; Dorland Agency, Lond.; Durham County Asylum, Winterton, Secretary of; Messrs. W. Dawson and Sons, Lond.; Messrs. Davenport, Lond.; Dr. A. L. Dykes, Oldham; Messrs. Dyer, Son, and Hilton, Lond.; Messrs. Dulau and Co., Lond.; Messrs. Dodd, Mead, and Co., New York; Dorset County Hospital, Dorchester, Clerk to the.

E.—Mr. K. B. Edwards, Berkhamsted; Dr. Edridge-Green, Lond.

F.—Dr. W. E. Fielden, Dover; Mr. George P. Forrester, Darmstadt; Mr. H. Fromm, Pinner; Mr. G. Finch, Ipswich; Dr. M. Fleming, Glasgow; Messrs. Fieldhall, Lond.

G.—Dr. V. P. Gretchinsky, Girin; Gravesend, Medical Officer of Health of; Dr. T. R. Glynn, Liverpool; G. C.; Dr. W. H. Guilfoy, New York; General Medical Council, Lond., Registrar of; Dr. E. Goodall, Lond.; Dr. W. H. Gimblett, Lond.; Captain Gurowski, Woolhampton Park.

H.—Dr. H. Hemsted, Weymouth; Dr. F. G. Hopkins, Cambridge; Dr. H. Hearsey, Zomba; Dr. F. C. Harrison, Toronto.

I.—Lieutenant-Colonel D. L. Irvine, Normanton; Institute of Hygiene, Lond., Secretary of.

J.—Dr. E. M. Johnstone, Virginia Water; Dr. R. T. Jenkins, Holt.

K.—Mr. P. E. Kingsford, Dover; Messrs. Kleine and Stapf, Berlin; Kent County Asylum, Maidstone, Clerk to the; Mr. D. Kennard, Lond.

L.—Lincoln Guardians, Clerk to the; Messrs. Leathwait and Simmons, Lond.; Leeds Corporation, Town Clerk of; Mr. H. K. Lewis, Lond.; City of London, Medical Officer of Health of; Mr. F. W. Lowndes, Liverpool; Lancashire County Asylum, Winwick, Clerk to the; Messrs. Lee and Nightingale, Liverpool; Mr. J. B. Lawford, Lond.; Mr. J. B. *Lamb, Lond.; Leicester* Borough Mental Hospital, Medical Superintendent of.

M.—Dr. Martin, Glasgow; Dr. Frank Moxon, Lond.; Mr. R. Mosse, Berlin; Mrs. F. W. Menzies, Perth; Maltine Manufacturing Co., Lond.; Mr. E. Maynard, Lond.; Messrs. Macmillan and Co., Lond.; Manchester Corporation, Clerk to the; Lieutenant-Colonel J. J. de Zouche Marshall, Thames Ditton; Mr. W. Martindale, Lond.; Medical Correspondence College, Lond., Secretary of; Dr. F. W. Mott, Lond.; Dr. Reginald Morton, Lond.; Medical Agency, Lond., Secretary of; Messrs. C. Mitchell and Co., Lond.; Metropolitan Asylums Board, Lond., Clerk to.

N.—*Nürnberger Zeitung*, Nuremberg, Editor of; National Health Insurance Commissioners, Lond., Secretary to; National Health Society, Lond., Secretary of; National Society of Chiropodists, Lond., Hon. Secretary of.

O.—Dr J. A. Ormerod, Lond.; Oldham Royal Infirmary, Secretary of.

P.—Messrs. G. Pulman and Sons, Lond.; Dr. E. Patteson, Lond.; Messrs. Peacock and Hadley, Lond.; Dr. P.; Penal Reform League, Lond.; Dr. Vittorio Puntoni, Bologna.

R.—Royal College of Veterinary Surgeons, Lond., Secretary of; Royal Hospital, Richmond, Secretary of; Mr. L. B. Rawling, Lond.; Rousay Parish Council, Clerk to the; Dr. F. G. Ralphs, Dukinfield; Dr. C. A. Rice, Cape Vincent; Mr. F. A. Robinson, Northampton; Dr. C. Russ, Lond.; Dr. E. Roesle, Dresden; Dr. Henry Rundle, Southsea; Radcliffe Infirmary and County Hospital, Oxford, Secretary-Superintendent of; Royal Institute of Public Health, Lond., Secretary of.

S.—Mr. H. W. Scriven, Lond.; *Shrewsbury Chronicle*, Manager of; Dr. G. A. Sutherland, Lond.; Mr. B. Sutcliffe, Lond.; The Sanatorium, Mundesley, Secretary of; Sheffield Corporation, Clerk to the; Messrs. Schall and Son, Lond; Dr. Edward C. Seaton, Lond.; Colonel Bruce Skinner, Lond.; Society of Apothecaries, Lond., Master and Wardens of; Spain, Consul-General of, Lond.; Spensers, Ltd., Lond., Manager of; Somerset and Bath Asylum, Taunton, Clerk to the; Mr. F. S. Salaman, Lond.; St. Mary's Hospital for Women, Lond., Secretary of; Messrs. Sells, Lond.; St. Peter's Hospital, Lond., Secretary of; St. Mary's Hospitals, Manchester, Secretary of; Dr. James H. Sequeira, Lond.

T.—Dr. E. T. Tatlow, Leeds; Dr. John Tatham, Old Oxtead; Mr. G. Lestock Thornton, Exmouth; Mr. Philip Turner, Lond.

W.—Messrs. J. Williams and Son, Bradford; Messrs. A. Wander, Lond.; Messrs. J. Wright and Sons, Bristol; Messrs. H. F. Wareham and Co., *Lond.*; Dr. Helen Wilson, Sheffield; Dr. W. McC. Wanklyn, Lond.; Warwickshire, County Medical Officer of Health of; Messrs. Whiffen and Sons, Lond.; Messrs. John Weiss and Son, Lond.; West London Medico Chirurgical Society, Hon. Secretaries of; Westinghouse Cooper Hewitt Co., Lond.; West Bromwich Corporation, Clerk of; Dr. David Waterston, Lond.; Dr. W. Camac Wilkinson, Lond.

Y.—Dr. M. Y. Young, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Allen and Hanburys, Lond.; Apollinaris Co., Lond.; Dr. H. G. Adamson, Lond.; Messrs. Adlard and Son, Lond.; Messrs. T. and M. Armstrong, Lond.; A. T.; Addenbrooke's Hospital, Cambridge, Secretary of; Anderson's College Medical School, Glasgow, Dean of; A. J. A.; A. C. H.

B.—Birkenhead Borough Hospital, Treasurer to the; Birmingham Maternity Hospital, Secretary of; Dr. B. L. T. Barnett, Ely; Birmingham, &c., Hospital for Skin Diseases, Secretary of; Bradford Guardians, Clerk to the; Mr. W. G. Burcombe, Lincoln; Dr. A. Bevan, Lond.; Bristol Royal Infirmary, Secretary of; B. J. P. J.; Mr. J. Berry, Lond.

C.—Mr. F. Collenette, Cullipool; Dr. A. H. Copeman, Brighton; Clapham Maternity Hospital, Lond., Secretary of; Messrs. Corbyn, Stacey, and Co., Lond.; G. W. Carnrick Co., New York; Messrs. Samson Clark and Co., Lond.; Messrs. Curling, Wyman, and Co., Lond.; Cheltenham General Hospital, Secretary of; Messrs J. and A. Carter, Lond.; Cumberland Infirmary, Carlisle, Secretary of; C. B. T.

E.—Electrical Printing Co., Lond., Manager of; Eskdalemuir Parish Council, Inspector of; E. G. F.; E. C., Kew.

F.—Mr. J. P. Fagan, Lond.; Mr. S A. Folland, Okehampton; Farringdon General Dispensary, Lond., Secretary of; Messrs. Fletcher, Fletcher, and Co., Lond.; Dr. H. N. Fletcher, Hove; Dr. C. Fraser, Bradford; Dr. S. F. Fox, Lond.

G.—Messrs. Gale and Co., Lond.; Galen Manufacturing Co., Lond.; Mr. H. Bellamy Gardner, Lond.; Gloucestershire Royal Infirmary, Gloucester, Secretary of; Dr. A. S. Garrett, Springtown; Glasgow University, Registrar of; Dr. S. Gill, Formby; Messrs. Grantham and Co. Reading; Messrs. Grindlay and Co., Lond.; General Infirmary, Macclesfield, Secretary of.

H.—Mr. H. G. Hirons, Lewis; Haslemere Nursing Home, Proprietors of; Messrs. T. Holland and Son, Lond.

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An Address

ON

THE DEGENERATION OF THE NEURONE IN THE LIGHT OF RECENT RESEARCH,

ESPECIALLY IN RELATION TO SYPHILIS AND GENERAL PARALYSIS.

Delivered at Birmingham at the Inaugural Meeting of the Midland Medical Society, Session 1913-1914.

BY F. W. MOTT, M.D. LOND., F.R.C.P. LOND., F.R.S.,

PATHOLOGIST TO THE LONDON COUNTY ASYLUMS.

MR. PRESIDENT AND GENTLEMEN,—Allow me to thank you for inviting me to follow the long list of distinguished members of our profession who have had the honour of giving an address at the annual inaugural meeting of the Midland Medical Society. I must first ask your permission to extend the title of my address in order to limit the scope to a subject in which I have long been interested—viz., the relation of syphilis to the degeneration of the neurone, especially in general paralysis, which owing to recent discoveries and the importance of the subject, particularly at the present time, necessitates a fuller discussion than other causes of degeneration of the neurone.

DEGENERATIONS OF THE NEURONE.

The term "neurone" implies a nervous unit—that is, a nerve cell and all its branches. The nervous system is made up of countless millions of nervous units, each one existing as an independent organism in contiguity but not in continuity. The neurones are genetically and trophically independent cellular organisms arranged in functionally correlated systems, communities, and constellations. There are two types of neurones, one in which the axis-cylinder process leaves the grey matter and acquires a medullated sheath—this is the first type of Golgi; the other, the second type of Golgi, in which the axis-cylinder process does not leave the grey matter. The nutrient and supporting tissues—viz., the blood-vessels, lymphatics, and neuroglia tissue—make up the histological elements.

Degeneration of the neurone may occur from an inherent lack of durability of certain correlated functional systems, as occurs in certain diseases which affect members of families at the same age in life and often in generation after generation—e.g., Huntington's chorea, hereditary ataxy. Degeneration of the neurone may result from direct injury or local extension of inflammation or by ischæmic softening due to obstruction of the blood supply by vascular occlusion; the degeneration that results therefrom is secondary. But when for whatever cause nervous tissue disappears the neuroglia always reacts by a nuclear and fibrillar proliferation—a law formulated by Weigert in 1890. The replacement of the nervous tissue by the neuroglia tissue causes a "sclerosis." But it is hardly necessary to remind you that the term "sclerosis" in the sense of a neuroglia proliferation being the primary cause is incorrect; the sclerosis is the effect, not the cause. Certainly there is a primary gliosis due to embryonic tissue taking on active growth, but the destruction of the neurones in syringomyelia is not caused so much by the gliosis as by hæmorrhages occurring in the glial tissue.

Now we recognise a certain number of primary degenerations of the nervous system characterised by insidious onset, progressive character, and a tendency sooner or later to a fatal termination, generally hastened by intercurrent disease or secondary microbial infections due to complications. I will put on the screen a slide to illustrate some of these primary degenerations. A pure primary decay of the neurone has been termed by Sir William Gowers "abiotrophy." Many of these [illegible] are associated with chronic [illegible] ad it is very difficult to say [illegible] decay of the neurone or are the result of it; certainly a proliferation of neuroglia tissue may result from simple atrophy and decay of the neurones, but a perivascular lymphatic infiltration with lymphocytes and plasma cells are evidence of a reaction to the poison.

Now there are two diseases which I have studied for many years in which this perivascular cell infiltration, together with neurolgia proliferation, is particularly marked and more or less universal in the central nervous system. They are the diseases caused by two specific protozoal organisms—the trypanosoma gambiense, the organism which causes sleeping sickness, and the spirochæte pallidum, the organism of syphilis.

Sleeping Sickness.

When I first published an account of the histology of sleeping sickness 14 years ago I pointed out the close similarity in the histological changes of the central nervous system to syphilitic meningo-encephalitis. I will show you now on the screen slides illustrating this, also one of experimental sleeping sickness. You will observe that the same perivascular infiltration with lymphocytes and plasma cells occurs in sleeping sickness, in syphilitic meningo-encephalitis, and in general paralysis of the insane (Figs. 5 to 9). In the last-named disease we have, as Noguchi says, a parenchymatous meningo-encephalitis.

The knowledge of the cause of sleeping sickness began with the discovery by Castellani of the trypanosoma gambiense in the cerebro-spinal fluid of five cases of sleeping sickness in Uganda, and the importance of this discovery is best shown by Sir David Bruce's acknowledgment in the fourth volume of the Sleeping Sickness Commission.

> This *most interesting discovery* of Dr. Castellani's, which was due to his introduction of the method of centrifuging the cerebro-spinal fluid in his search for streptococci, has been of the utmost value to the present Commission. It put them at once on the right track, and led to the easy and rapid elucidation of the hitherto mysterious disease. Without knowledge of his observation they might have worked for months in the dark, and, *in truth, they might even have* returned to England still ignorant as to the true cause of the disease.

Castellani had already given it as his opinion that a streptococcus was the cause of the disease, he believing that the trypanosome, *like the filaria* perstans, was an accidental concomitant. If he had been able to extend his observations he might have changed his opinions. I mention this because a letter appeared in the *Times* disputing Professor Ehrlich's right to give *any credit to Castellani* for the discovery of the cause of the disease.

A large number of specimens of brains of cases of sleeping sickness were sent to me to examine by the Commission, and I could add little or nothing to my original description of the histological changes found in two cases of Manson which were in Charing Cross Hospital. I never succeeded in finding the trypanosomes in sections, but I have seen them in brain smears; the trypanosomes were always found in the cerebro-spinal fluid by Sir David Bruce.

Now the trypanosome of sleeping sickness is, comparatively to the spirochæte pallidum, a large organism, and therefore it is not surprising that no one before Noguchi was able to find the specific organism of syphilis in the brains of general paralytics; although to my mind the facts which had already accumulated since Fournier pronounced this disease to be parasyphilitic seemed to be overwhelming proof that if there were no syphilis there would be no general paralysis.

CLINICAL AND ETIOLOGICAL FACTS SUPPORTING THE SYPHILITIC ORIGIN OF GENERAL PARALYSIS AND TABES DORSALIS.

1. A history of syphilitic affection, usually of a mild form as regards secondary and tertiary symptoms, can be obtained in as lar[illegible] cases of general paralysis as in [illegible] skin lesions. 2. A correlation of the incidence of syphilis and the incidence of general paralysis in the two sexes according to the social grade. 3. In 60 cases of the juvenile form of general paralysis I found evidence of congenital syphilis either in the family history or signs on the body of the patient in nearly every instance, and in not one could it be excluded. In the juvenile form the sexes are equally affected. Mental stress, alcoholism, and sexual excesses, the previously attributed causes, can be excluded. 4. I showed that Fournier was right in asserting that tabes and general paralysis pathogenetically were one and the same disease, affecting different parts of the nervous system, for I collected 70 cases of tabo-paralysis, and I found that some began as tabes and ended in general paralysis; in others the spinal and cerebral symptoms started simultaneously; while again in others it began with optic tabes and ended in spinal tabes or tabo-paralysis. About 10 per cent. of cases of tabes end in tabo-paralysis. 5. The most convincing proof of the syphilitic nature of general paralysis was Krafft-Ebing's inoculation of nine paralytics with no history and no signs on the body, none of whom were capable of re-infection. In all my very large experience I have never seen a primary sore or secondary eruption on a paralytic.

This chain of circumstantial evidence was strong enough for most [illegible] eminent authorities such as Si[illegible]. Dr. Drummond, and many others were convinced, as I was, that if there were no syphilis there would be no tabes or general paralysis.

THE SEARCH FOR THE SPECIFIC ORGANISM IN THE BRAIN.

Then came the discovery of the spirochæta pallida of syphilis by Schaudinn, and the successful inoculation of anthropoid apes by Metchnikoff, Hoffmann, Neisser, and others, which was extended to other animals such as apes and rabbits. This was followed by the introduction of the Wassermann reaction, and the blood of persons who were reacting to the syphilitic organism was shown to have complement fixation. It was soon found that general paralytics invariably gave the reaction in the most marked manner, and later Plaut showed that [illegible] gave a positive reaction in 96 [illegible] um giving it in every case. Indeed, the cerebro-spinal fluid was much more certain to give a positive reaction than syphilis of the nervous system. My assistant, Dr. J. P. Candler, has found 98 per cent. of paralytics give a certain positive reaction of the fluid, and the results have been already confirmed in over 200 cases by post-mortem examinations.

The introduction of the ultramicroscope led us to look for the spirochæte in the cerebro-spinal fluid in a number of cases, but we did not meet with success. I also made a great number of preparations of sections of the brain by the Levaditi method, but, like Minea and Marinesco, who examined 30 cases of general paralysis, I was unsuccessful in finding the spirochæte. I therefore concluded that in all probability there was a latent granular form, and in the fourth volume of the System of Syphilis—"Syphilis of the Nervous System"—I put forward this view, supporting it by the fact that I had seen in smear preparations enormous numbers of chromidian granules; likewise in sections of syphilitic papules, where only a few spirochætes were seen, I have observed these granules. But my main argument was based upon the important observation by Leishman that the spirillum of tick fever exists in a granule form in the cells of the body of the tick, and he could cause these granules to develop into spirillary forms. Again, Neisser was able to infect monkeys with the marrow of bone of infected animals, although the most diligent search showed no spirochætes. Noguchi himself thinks there may be a granule form; in fact, his culture experiments seem to indicate such. Moreover, Balfour and O'Farrell have stated that they have observed a shedding of granules after acting upon spirochætes with salvarsan. The paper published in February by Noguchi and Moore, in which it was shown that Levaditi-silver-stained-preparations of 70 cases of general paralysis showed spirochætes in 12 of them, was an epoch-making discovery.

When I was at the Rockefeller Institute in April, Noguchi was good enough to give me one of these preparations, which left no doubt in my mind of their existence. Since this discovery by Noguchi we have a new conception of the disease on the sure ground of direct observation, yet there are still many facts unexplained; nevertheless, all the evidence points to the fact that the term "parasy[illegible] a post-syphilitic affection, must be [illegible] term *parenchymatous syphilis*. Noguchi has examined another 130 cases of general paralysis, and in this second series he found the spirochætes in 36, making in all 48 out of 200. In 6 cases he examined fresh brains by means of the ultramicroscope, and in one of these he found spirochætes. In 12 cases of tabes he found the organism in one only. Marinesco and Minea have reported that 1 case out of 26 yielded a positive result by the silver *method*. This case showed nests of spirochætes, as many as 60 in one field of the oil immersion being counted. I throw on the screen a photomicrograph of a specimen sent me by Professor Marinesco. (Fig. 5.)

Marie, Levaditi, and Bauchowski have reported 3 positive results out of 30 cases of general paralysis by the silver method. In a more recent publication they claim to have shown that spirochætes are constantly present in the brains of general paralytics dying in seizures. They emphasise the importance of a systematic examination of all the convolutions of the cortex until a positive result is obtained. They do this by sections, by films prepared from an emulsion of the cortex and subsequent examination by the Indian ink method or the silver method of Fontana. They found spirochætes in all the 7 cases examined. They observe that if one can localise the muscular epileptiform seizures a guide will be obtained of a focus of spirochætes in the neighbourhood of the portion of motor area affected. I show a preparation kindly sent me by M. Marie. (Fig. 4.) Forster and Tomasczewski obtained 2 positive results out of 4 cases in which the material was taken from the patient by the Neisser-Pollak puncture method and examined by the ultramicroscope.

NOGUCHI'S EXPERIMENTAL OBSERVATIONS.

Before referring to my own observations I will give a *résumé* of Noguchi's experiments relating to the transmission of the spirochæte pallidum obtained from the brains of general paralytics to the rabbit, and the experimental production of syphilitic encephalitis in this animal.

Noguchi inoculated into the testicles 36 rabbits with the emulsion of six different specimens of brains of general paralytics in the fresh state. At the end of 97 days in one case and 102 days in the other a small but typical induration of the testicle and scrotal skin occurred. In the first case the spirochætes were few, in the second they were abundant. It is interesting to note how slow was the development as compared with the transmission by infection made with material obtained from a chancre or secondary lesion; in the latter case the lesions generally appear after an interval of four to six weeks, rarely two months elapse.

THE EXISTENCE OF THE PARASITES IN THE PARENCHYMA OF THE NERVOUS SYSTEM IN RELATION TO THEIR RESISTANCE TO THE ACTION OF DRUGS.

This interesting observation of Noguchi may be correlated with the many facts which seem to point to the specific organism that produces general paralysis being either a form which has been modified by the widespread use of mercury or modified by passing through the bodies of individuals who have acquired resistance. A number of instances of infection have been reported which seem to point to the possibility of a specific organism; the most convincing being that of Brosius in which seven glass-blowers were infected, four of whom ten years later suffered with tabes or general paralysis. Certain it is that the average time after infection in general paralysis and tabes is 10 years, and the signs and symptoms of the disease externally manifest in the form of skin and bone lesions are as a rule either absent, mild, or obscure; whereas in syphilitic brain and cord disease the great majority of the cases occur within the first four years after infection, the greatest percentage occurring in the first and second years. Whereas the signs and symptoms of the latter are coarse and obvious and with generally well-marked skin eruptions amenable to treatment, the former—the so-called parasyphilitic, or, as I shall prefer to call them, parenchymatous syphilitic disease—are late (quaternary) and comparatively unamenable to treatment. Is this because they are mercury-fast organisms, or is it because they exist in a latent granular or intracellular form in the parenchyma of the nervous system, where they cannot be attacked by the drugs such as arsenic, mercury, and antimony? By analogy this does not seem improbable, seeing that in sleeping sickness when once the trypanosome has invaded the nervous system, atoxyl and other arsenical and antimonial preparations which were intravenously injected fail to kill the parasite and arrest the progress of the disease. Moreover, there is other evidence in favour of this conclusion. Arsenic is not found in the brain when large quantities of arsenic have been taken in cases of poisoning; it has not been found in the fluid after injection of salvarsan intravenously. The late Professor Goldmann has shown that the choroid plexus intercepts dyes which have been injected intravenously in large quantities, 100 c.c. of a 1 per cent. solution of trypan blue, whereas 1–2 c.c. of 0·5 per cent. solution injected by lumbar puncture stains the whole cerebro-spinal axis except the cortex, penetrating and staining all the neurones. This, as I shall tell you later, has led to the idea of a new method of treatment, not by injecting weak doses of salvarsan or neosalvarsan intrathecally, for this would be a most dangerous proceeding; to kill the parasites you might kill the neurones and the patient.

The only case of trypanosomiasis ugandensis that I have heard of as having recovered was a Sikh whose brain was sent to me for examination. He lived five years after infection and was treated for a long time—18 months—with atoxyl, then with mercury, for he became intolerant of arsenic and had contracted syphilis. Three years after infection his fluid was examined by Sir David Bruce and found free of trypanosomes and he showed no signs or symptoms of sleeping sickness; he died two years later. I examined his brain and found no signs of perivascularitis or neuroglia proliferation —histological changes which were present in every case, 30 in all, that I had previously examined and which during life had exhibited the characteristic lethargy.

These facts show that the presence of the trypanosome in the central nervous system is necessary to produce the meningo-encephalitis characteristic of the disease, although to my mind it is possible that toxins may pass into the central nervous system along perivascular and perineural lymphatics, as Orr and Rows have shown experimentally.

FURTHER EXPERIMENTS OF NOGUCHI.

Noguchi has shown that the central nervous system of monkeys and rabbits is very resistant to syphilitic infection, even when the virus is introduced directly into the cerebral substance. Most animals remain in perfect health during an indefinite period after the intracerebral inoculation of spirochæte pallidum. Noguchi conceived the idea that it was necessary to sensitise these animals by repeated intravenous injections with dead and living spirochætes; this he did for five months. At the end of this time he made an intracerebral inoculation or subdural insertion of an emulsion of minute particles of testicular syphiloma of the rabbit, rich in spirochætes. Twelve sensitised and 4 normal rabbits were employed, all of which remained healthy for two months; then some of the sensitised rabbits showed symptoms. The animals were killed and 3 of those which had been sensitised showed cerebral changes not unlike those of a syphilitic meningo-encephalitis. For my own part, I am doubtful whether these experiments prove very much one way or the other as regards the production of general paralysis in animals.

PERSONAL OBSERVATIONS.

I will now refer to the recent work concerning the existence of the spirochæte in the brains of cases of general paralysis which has been done under my direction at Claybury; also I will endeavour to demonstrate the difference in the pathogenesis and histology of syphilitic meningo-encephalitis and general paralysis and syphilitic meningo-myelitis and tabes dorsalis. I will also compare the histology of sleeping sickness, a trypanosome infection, with the syphilitic spirochæte infections, and the deductions which can be made therefrom. Lastly, I will call your attention to an inquiry into the incidence of general paralysis in the different parishes and districts of the county of London.

SPIROCHÆTES IN THE BRAINS OF GENERAL PARALYTICS.

Having failed to find the specific organism in sections stained by the Levaditi method after a diligent search of numbers of sections from numbers of cases—in this search I was aided by my assistant Mr. Charles Geary, Dr. Fisher, and Major Fink—I resolved to adopt the Indian-ink method (Burri); and by this method I soon obtained apparently positive results. I say [illegible] must be admitted that delicate [illegible] may be mistaken for spirochætes, and unless these spiral forms have been observed in the living state moving on the dark-ground microscope convincing proof of the presence of spirochætes would be wanting. Yet I feel convinced they were in the light of further researches by the Fontana method and the ultra microscope.

I have thought that active pullulation of the specific organisms might be associated with epileptiform seizures, and in support of this I may observe that I have found that unilateral convulsions of a severe nature were at the necropsy associated with a great wasting of the corresponding hemisphere. For example, I have found after prolonged right-sided seizures a marked speech affection and a hemiparesis; at the post-mortem examination the left hemisphere has in some instances of this kind weighed as much as 100 grm. less than the right. In the light of recent researches of Noguchi it is probable that the active development of the spirochætes leads to the production of toxins which cause a rapid destruction of the neurones in two ways—firstly, by the direct destructive effects of the toxins on the neurones; and secondly, by irritation and proliferation of the cell elements of the perivascular lymphatic sheaths, the capillary endothelium, and the neuroglia cells, the perivascularitis and capillary changes causing blood stasis and destructive effects on the neurones secondary to these inflammatory changes

But to return to the demonstration of spirochætal foci in the brains of paralytics. Having this hypothesis of association of active proliferation of the specific organism and the onset of seizures I wrote an encyclical letter to the superintendents of all the ten asylums asking them to forward me the brains of patients who just prior to death had had seizures, and from these brains, which numbered in all 11, I obtained by the Indian-ink method spiral forms in 8 cases. Of 7 cases dying at Claybury in the ordinary routine and not selected, in 3 spiral forms were found (*vide* illustration). Portions of all these 18 brains were fixed and stained by Noguchi's modified silver method and sections made; so far specimens from eight brains have been examined but without results; indeed, the fibrils in many of the specimens are stained as well as in Levaditi preparations.

My assistant, Mr. Geary, has now succeeded in staining films with the Fontana Tribondeau silver method, and we have obtained excellent results in 3 cases; in one of these—a brain sent from Horton, which was comparatively an early case—numbers of spirochætes were found in film preparations (*vide* illustration) of the second frontal convolution, but from no other of many regions examined. This shows the truth of Marie, Levaditi, and Bauchowski's observation that all the convolutions of the cortex require to be examined systematically. The spirochætes of this case four days after death were also observed moving, it is true only sluggishly, by means of the ultra-microscope. Spirochætes were not found in films from the second frontal when the brain was received; but 24 hours later, when the substance was soft and a certain amount of decomposition had occurred owing to invasion of other organisms, they were found in abundance in this one region.

Seeing that fœtal tissues containing a great abundance of spirochætes are generally decomposed and contain numbers of other organisms, as also chancres and the enlarged lymphatic glands, it is possible that the secondary microbial invasion by aerobic organisms may possibly favour in some way the development of the non-aerobic specific organisms, as we know is the case in tetanus. Certainly my experience teaches that pneumonia, dysentery, septicæmia, and other intercurrent secondary microbial infections are especially liable to be associated with seizures, not necessarily generalised, but often unilateral in character.

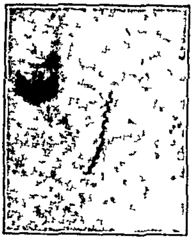
Further experiments and observations which I am now making will, I hope, help to decide whether the hypothesis of a latent granule form, which under favouring circumstances develops into a spirochætal form with production of toxins, is true or not. The great difficulty is that the search for spirochætes in the brain is like looking for the proverbial needle in a haystack; not finding does not mean non-existence. The investigation is attended with great technical difficulties, and there is still much to be done before we can fully understand the pathogenesis and pathology of these late syphilitic diseases of the nervous system.

INTRATHECAL INJECTION OF PATIENTS' SERUM AFTER SALVARSAN TREATMENT.

In respect to the early acute infection of the central nervous system, I may mention that I recently had under my care a case of gummatous meningo-encephalitis. Infection occurred in February last, and in spite of intramuscular injections of salvarsan and mercury severe cerebro-spinal symptoms set in in September. The cerebro-spinal fluid showed a great abundance of lymphocytes, and a spiral form which resembled a short spirochæte was found in one of the Indian-ink preparations of the centrifuged deposit. As I could not find spirochætes moving with the dark-ground illumination this is not claimed as convincing proof. The cerebro-spinal fluid, like the blood, in this case yielded a very marked complement fixation. He subsequently received an intravenous injection of 0·4 grm. neosalvarsan with great improvement, but the greatest improvement resulted from an intrathecal injection of serum taken one hour after another dose of neosalvarsan had been administered; subsequent to this the fluid became less positive and the lymphocytosis disappeared.

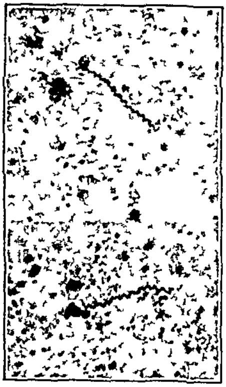
The serum was tested for arsenic and yielded no result; the [illegible] conclusion being that the action of the seru[illegible] antibodies in

FIG 1



Spirochæte in smear of condyloma stained by Giemsa (× 1800)

FIG 2

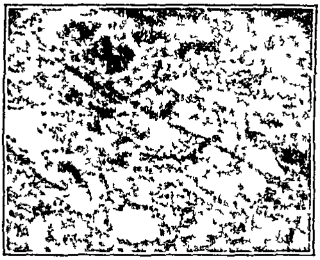


Spirochætes from a smear of brain in case of general paralysis stained by Fontana silver method (× 1400)

FIG 3

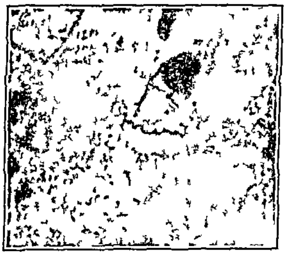
Smear of brain of general paralytic stained by Indian ink method, showing spirochæte (× 1550)

FIG 4



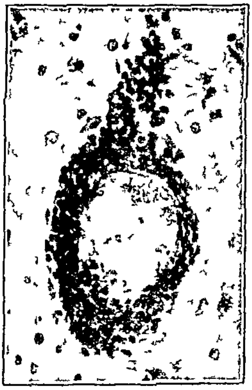
Section of brain stained by a silver method from a preparation by Professor A Marie (× 1740) Many spirochætes are seen in the field but only one is in focus

FIG 5



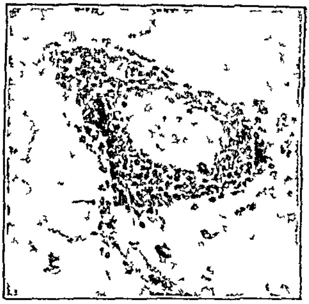
Section of brain of general paralysis stained by the silver method showing spirochætes one in focus preparation of Professor Marinesco (× 1550)

FIG 6



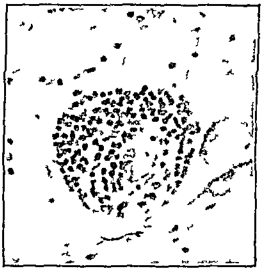
Section of the brain of general paralysis showing small vessel with perivascular cell infiltration (× 350) This preparation and the two following stained by polychrome blue

FIG 7



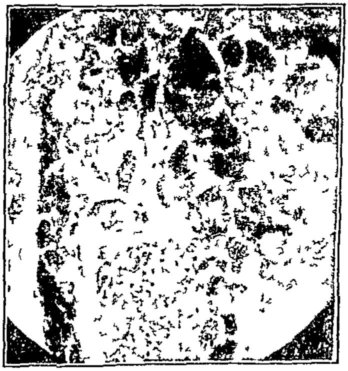
Small vessel of the brain in cerebral syphilis showing perivascular cell infiltration (× 250)

FIG 8



Section of the brain from experimental sleeping sickness showing small blood vessel with perivascular cell infiltration (× 250)

FIG 9



Section of brain in general paralysis showing longitudinal section of vessel with active proliferation of plasma cells (× 750)

the blood and not to the arsenic. But seeing that I have found that intravenous injections and even intramuscular injections of salvarsan may convert a positive Wassermann reaction of the fluid in general paralysis into a negative reaction, and thus account for the improvement, it is necessary that the serum of another individual who had received an intravenous injection of salvarsan should be injected into the lumbar subarachnoid sac before it could be claimed that the antibodies in the serum were the cause of the improvement. Dr. Swift, of the Rockefeller Institute, who claims to have obtained very hopeful results by this method of treatment in tabes dorsalis, said at the International Medical Congress that he had done this with equally satisfactory results. If this be true it would appear that mercury and arsenic are spirillocidal either by causing the development of antibodies or by furthering their spirillocidal action. Dr. George Robertson, of Morningside Asylum, from his experience, does not claim to have attained a cure, and is quite judicial in his statement regarding the effect of this treatment in general paralysis, for he says:—

> Although success has not been obtained there are hopeful indications, for it appears that the disease process, if not suppressed, is at least touched in half the cases. The decrease in the lymphocytosis, the diminution in the intensity of the Wassermann reaction, and its disappearance for over a year in some cases are hopeful signs of the most convincing character.

Dr. Fisher, of the Rockwood Hospital, Kingston, Canada, who for some months past has been working under my direction at the Pathological Laboratory, Claybury, had the idea of treating general paralysis by this method, and in the spring of 1912, by the kindness of the superintendent, Dr. Ryan, Dr. Fisher took 7 cases of advanced general paralysis and rendered the blood negative to the Wassermann reaction by repeated intravenous injections of salvarsan. Then under rigid antiseptic precautions he withdrew 15 to 20 c.c. of blood from the median basilic vein of the patient's arm, placed this in a cool chamber for one hour, separated the clot, and centrifuged the serum for half an hour in sterile tubes. Next he performed lumbar puncture and withdrew cerebro-spinal fluid of an amount equal to that of the serum to be injected, which is slowly introduced, being kept at the body temperature. The patient is allowed for one hour to lie flat on his back without a pillow and with the foot of the bed raised. This treatment was repeated every week for the first three months, then every two weeks for the next four months. No untoward symptoms occurred in any of the cases under treatment, and he has learned that the cases have greatly improved, and apparently there has been an arrest of the symptoms so far.

In the Oliver-Sharpey lectures which I delivered at the Royal College of Physicians of London in April, 1910, I gave many reasons from experiment and observation why it seemed probable that the cerebro-spinal fluid functions as the lymph of the brain. I also pointed out that, inasmuch as normally it contains no proteids or cell elements, if microbial invasion occurred it tended to spread rapidly because the fluid normally contained no bactericidal action nor leucocytes capable of combating microbes. These experiments of introducing serum of patients, which presumably contains antibodies, rest therefore upon a scientific basis if my conclusions are correct. At the same time it is difficult for the serum to arrive at the crannies in the cortex by injecting it by lumbar puncture into the subarachnoid space, for Goldmann's researches with trypan blue show that the cortex is unstained when the dye is introduced by lumbar puncture. He found, however, that the cortex is well stained when the dye is introduced by trephining the calvaria. It is possible that by repeated injections, as in Dr. Fisher's experiments, the antibodies may reach the cortex by lumbar puncture. Goldmann's work, however, shows the desirability of trying the method of introducing the serum directly into the subdural or subarachnoid space of the cortex. Unfortunately, I have not the authority to try this in my capacity of pathologist to the London County Asylums.

THE WASSERMANN REACTION.

I have already mentioned that in practically every case of general paralysis a positive Wassermann reaction is obtainable in the cerebro-spinal fluid, whereas not more than 50 per cent. of the cases of tabes yield a positive reaction. Why is this? In my opinion the reaction in the cerebro-spinal fluid is evidence of the existence of the parasites or their toxins in the central nervous system. I consider that it is the toxins produced by the active generation of the parasites which cause the reaction, the degeneration of the neurones, and the active proliferation of the lymphocytes, plasma cells, and neuroglia cells. For several reasons I consider it is a reaction of the neurones which gives rise to the euglobulin in the fluid that serves as a complement fixative. Firstly, because the toxins of other specific organisms, for example, tubercle, give rise to lymphocyte, plasma cell, and neuroglia proliferation without producing complement fixative in the fluid. Secondly, because some cases—in fact, the majority of cases of cerebro-spinal syphilis, even cases with active meningitis and enormous numbers of lymphocytes in the fluid—nevertheless give a negative Wassermann reaction, and there is no complete parallelism between lymphocytosis and degree of complement fixation. The experiments of Levaditi and Yamanouchi, however, show that it is the toxin of the spirochætes, and not the parasites themselves, which induces the typical lymphocyte and plasma cell reaction. Thus they introduced a small portion of infected cornea of a rabbit containing abundant spirochætes into the anterior chamber of the eye of a healthy rabbit, and they observed a characteristic cell reaction in the cornea of the normal rabbit before there was an invasion by spirochætes. This experiment shows that a localised nest of spirochætes in the cerebro-spinal axis or even outside the central nervous system, provided the toxins can be conveyed by lymphatics, can set up the characteristic cell reaction in the perivascular spaces of the nervous system, each fresh dose of toxin leading to a remission of symptoms and decay of nervous structures.

We know that normally the choroid plexus does not let this toxin pass into the cerebro-spinal fluid any more than it does the antibodies, for the blood may give a very strong reaction in cases of syphilis, and yet the cerebro-spinal fluid not show the slightest trace of reaction. Now the cerebro-spinal fluid in great part is secreted by the choroid plexus into the lateral ventricles; consequently fluid withdrawn from the lateral ventricles should give a less marked reaction than that withdrawn by lumbar puncture, for the latter would have been in contact longer with the nervous tissue. Acting upon this hypothesis I asked my assistants, Dr. Candler and Mr. Mann, to examine a number of cases to test its validity. In 38 cases the fluid was withdrawn as soon after death as possible from the lateral ventricles and by lumbar puncture: the result obtained in all the instances was to show that the fluid obtained by lumbar puncture was from two to ten times as strong in linking up complement as that from the ventricles. Doubtless, if the fluid could be obtained as it was secreted during life into the lateral ventricles no specific globulin would exist in it.

Tabes being a much slower decay of the neurones, and limited to the posterior spinal afferent neurones in the great majority of cases, presumably is occasioned by small doses of toxin finding entrance to the posterior columns by limited and defined channels; indeed, it is conceivable that the syphilitic toxin may arise in lesions of the thoracic or abdominal aorta which, passing along the lymphatics of vessels, gains access to the lymphatics of the spinal cord, the circulation of the lymph being along the course of the afferent roots. This seems probable from the experiments of Orr and Rows, who have, by tying celloidin capsules containing microbial toxins on the sciatic nerve, produced a perivascularitis in the posterior columns with degeneration of exogenous afferent systems like those of tabes. Possibly the perivascular lymphatics of the carotids may convey toxins or even the specific organisms to the fronto-central region of the brain in cases of general paralysis. This is a not improbable source of infection, for if skin lesions of syphilis are rare in this disease, syphilitic nodular fibrosis of the aorta is extremely common.

LESIONS IN EARLY AND LATE STAGES.

A comparison of the lesions of syphilitic disease of the brain and cord in early stages after infection with those occurring late, on an average 10 years after infection, shows that in both there is the same perivascular infiltration with lymphocytes and plasma cells; this is the reaction to the toxin produced by the parasite. In syphilitic brain disease there is also an endarteritis, sometimes localised, sometimes universal, and it is the blocking of the vessels by this inflammatory condition, especially when associated with thrombotic occlusion, which occasions the symptoms of so varied and obtrusive a character and sudden in onset. So also in focal meningomyelitis the localised decay of neuronic structure giving rise to paraplegia is due to obliterative endarteritis more than to the meningeal and peri-vascular inflammatory changes. If the vessels are not damaged extensively remarkable curative results by specific treatment are obtainable. The Argyll-Robertson pupil so characteristic of tabes and general paralysis is not seen.

In general paralysis examination of the vessels of the brain seldom shows any evidence of endarteritis; if there is any extensive vascular inflammation it is in the capillaries, where undoubtedly the endothelium undergoes active proliferation and budding; the reason for this cannot be the toxin circulating in the blood, otherwise the endothelium of the arteries and veins would show it. Probably the specific toxin is in all the interstices of the nervous tissue wherever the cerebrospinal fluid irrigates; thus it comes in contact with the capillary endothelium and excites its active proliferation, with capillary blood stasis, a histological condition that is especially characteristic of general paralysis.

I have met with a few cases of syphilitic brai disease, which have terminated in typical gener paralysis, and St[illegible] has recorded several [illegible] general paralysis [illegible] the mos consistent naked-eye phenomenon, which is not see to anything like the same degree in syphili brain disease nor in sleeping sickness, is th granular condition of the ventricles, especiall the fourth ventricle. This indicates the prolonge existence of an irritant toxin in the cerebr spinal fluid. The greater the wasting of th brain the more pronounced is this chang The wasting of the fronto-central convolution and of the whole cerebral cortex, but to less degree, is a characteristic feature of thi disease (general paralysis) as compared wit syphilitic brain disease. Doubtless this is in pa due to the vascular changes, but inasmuch as i sleeping sickness the perivascularitis and meningiti may be as extensive as, and even more univers and extensive than in general paralysis, it must b concluded that there is also in this disease primary and progressive decay of the neurone owing to the continuous action of the toxin sensitising the nerve cells and causing them to react such a degree that the normal metabolic equilibriu is destroyed and degeneration ensues, so tha we have, as Noguchi asserts, a parenchymatou encephalitis.

THE INCIDENCE OF GENERAL PARALYSIS IN THE POPULATION OF LONDON.

If it could be assumed that 2–3 per cent. o persons who acquired syphilis developed genera paralysis it might help us to estimate approximately the extent of syphilis in a population; fo inasmuch as general paralysis is a disease fata within a few years of admission to the asylum accumulation of cases suffering from this diseas does not occur, consequently the death-rate pe annum is about equal to the admission rate. I wi throw on the screen a lantern slide showing th incidence of general paralysis in the genera admissions to the London County Asylums durin the years 1911–1912 from the parishes north an south of the Thames, east and west; I will poin out the main results which these tabulated statistic show.

North of the Thames—West-end parishes. Total population equals 1,376,083. Male admissions 1183; of these 20 were general paralytics, so that the percentage of paralyti male admissions is 17·3. Female admissions 1236; of thes 31 were general paralytics, so that the percentage c paralytic females is 2·5. So that general paralysis is seve times as frequent in males as compared with females i West-end parishes north of the Thames.

North of the Thames—East-end parishes. Total population equals 1.282,911. Male admissions 930; of these 12 were paralytics. so that the percentage of paralytic mal admissions is 13·2, against 17·3 in the West-end parishe north of the Thames. Female admissions 981; of these 3 were general paralytics, so that the percentage is 3·4 i eastern parishes north of the Thames, against 2·5 per cent in the West-end.

In West-end parishes north of the Thames we will fin that 1·75 per 1000 residents were admitted in the two year and of these 9 7 per cent. were general paralytics. I East-end parishes north of the Thames 1·49 per 1000 wer admitted in the two years, and of these 8·2 per cent. wer general paralytics.

In West-end parishes south of the Thames th results obtained are somewhat different, for bot males and females have a higher percentage o general paralytics in the western parishes however, this quite accords with the character of the population in Wandsworth and Lambeth.

In the western parishes the total population is 777,321. The male admissions are 537; of these, 97 are paralytics, a percentage of 18 3. The female admissions are 641; of these, 20 are general paralytics, percentage 3·1. Both male and female incidence of paralysis are high.

In the eastern parishes the total population is 1,066,989 The male admissions are 741; of these, 102 are paralytics a percentage of 13 7 The female admissions are 825; of these, 23 are paralytics, a percentage of 2 7.

The western parishes are higher in both male and female paralytics; in the former 10 per cent of the total admissions are paralytics, to 7·9 per cent in the latter.

These facts entirely agree with what we know of the incidence of general paralysis in the two sexes from practice—viz., the lower we go in the social scale the more common becomes this disease in the female sex; whereas general paralysis is common to all grades of society in the male sex, it is very rare in the better and respectable classes of females in all grades of society. Probably these statistics give a rough idea of the relative prevalence of syphilis in the two sexes.

We may conclude, therefore, that syphilis is commoner in the West-end among males and in the poor East-end among females. Seeing that a very considerable number of paralytics in the West-end do not come into the county asylums it may be assumed that the ratio of six males to one female is well under the mark.

[illegible] Sir David: Sleeping Sickness Commission, [illegible] sults of Wassermann Reaction: Dis[illegible] s of the Royal Society of Medicine. Ehrlich The Harben Lectures on [illegible] Lecture I, [illegible] e LANCET, [illegible] Deutsche [illegible] Fournier. [illegible] al Farbung [illegible] er Wissen- [illegible] ntation de [illegible] lxiv, 1908, [illegible] tober, 1908. [illegible] Tréponème [illegible] s, Comptes [illegible] 17. 1913. [illegible] le Système Nerveux Central des Paralytiques, Societe de Neurologie, April 5th, 1906; Ibid., Présence du Treponema Pallidum dans la Paralysie [illegible]

[illegible] bei der Progressiven Paralyse und bei Tabes [illegible]

Plague Rats at Seattle.—Seattle, the largest port on Puget Sound, the northernmost of the large ports on the Pacific seaboard of the United States, has found plague rats and is now anxious about possible danger. At this point it becomes at once clear what a strength their public health service is to the United States Instead of anxiously advertising for casual doctors to assist them, they get an additional officer of the service detailed from San Francisco for duty at Seattle, and have many others, experts at this particular work, to help them if required. No plague rats have been so far observed in the neighbouring British Columbian ports, Victoria (60 miles away), and Vancouver (100 miles north), but the Seattle papers are tartly suggesting that that is perhaps only because they have not been looked for, and that the quarantine suggested against ships from Seattle is unnecessary.

GONORRHŒA PHYLACOGEN:

REPORT ON AN INVESTIGATION INTO ITS VALUE IN THE TREATMENT OF SOME GONOCOCCAL INFECTIONS.

By L. W. HARRISON, M.B. Glasg.,
MAJOR, ROYAL ARMY MEDICAL CORPS.

For the opportunity of making this investigation I am indebted to the Editor of THE LANCET, who suggested it and provided me with a supply of the remedy.

Phylacogen is the trade name applied to a series of solutions of bacterial products prepared according to the directions of Dr. A. F. Schafer (California), their inventor. Dr. Schafer's theory is that every bacterial disease is due to mixed infection. The micro-organism to which the disease is usually attributed may preponderate, but others which are commonly found in the body play some part in producing the symptoms which the patient displays. Accordingly, the attack must be directed not only against the specific germ but also against a host of others which assist or are assisted by it. According to a handbook issued by the firm responsible for its manufacture, a basic phylacogen is prepared by mixing together filtrates (through porcelain) of cultures of "staphylococcus pyogenes (albus, aureus, and citreus), streptococcus pyogenes, bacillus pyocyaneus, diplococcus pneumoniæ, bacillus typhosus, bacillus coli communis, bacillus diphtheriæ, streptococcus rheumaticus, and streptococcus erysipelatis." This mixture constitutes "mixed infection phylacogen" and enters into the constitution of each of the specific phylacogens (erysipelas, gonorrhœa, pneumonia, and rheumatism). Each of these is prepared by mixing together equal parts of "mixed infection phylacogen" and the filtrate of a pure culture of the specific micro-organism. It will be realised, therefore, that phylacogens are not exactly vaccines in the commonly accepted sense of the word, since they contain no solid bacteria. They are more analogous to the toxins which are used for the manufacture of antitoxins. It is not intended here to discuss Dr. Schafer's theory, but to relate the results of a short experience of gonorrhœa phylacogen and to offer some comments on the progress of the patients who were treated with this remedy as contrasted with that of similar cases treated by ordinary methods. It is necessary first, however, to make a few remarks on the administration of gonorrhœa phylacogen and on its side-effects.

Methods of Administration and Dosage.

According to the recommendations issued by the makers, gonorrhœa phylacogen may be administered subcutaneously or intravenously, the *former* for choice, and always for the initial dose. The intramuscular method is not recommended, but the reason for this is not stated, nor is it quite clear, unless *it is for reasons of safety. In the* series of cases related below I employed the intramuscular as well as [illegible] and intravenous methods an[illegible] the therapeutic *effect of the* [illegible] was in no way superior to the intramuscular, the local reaction which followed the intramuscular injection was more bearable than that which followed the subcutaneous, especially when large doses were employed.

With regard to dosage, for subcutaneous injection the original recommendation was to commence with 3–5 c.c. and increase to 10, 15, or even 20 c.c., but in a later pamphlet the makers now recommend smaller doses than this—1 or 2 c.c. at first, increasing each dose by 1 or 2 c.c. till a maximum of 10 c.c. is reached. For intravenous injection it is now recommended to commence with 0·125 c.c. to 0·25 c.c., increase very gradually till a dose of 1 c.c. is reached, and thereafter by increments of 1 c.c. to a maximum of 5 c.c., avoiding if possible any marked constitutional reaction. The interval which is recommended between doses is 24 hours or less unless a marked reaction follows the injection, when it may be prolonged to a maximum of 48 hours. A longer interval is deprecated on account of the likelihood of relapse, and for the same reason it is urged that the injections be prolonged till at least 10 days after the patient is relieved of his symptoms.

I have endeavoured to follow these directions as closely as circumstances would allow, but for obvious reasons have not felt justified in prolonging the treatment in cases where it was clear that the remedy was having no effect on the disease. As will be mentioned, the reaction after an injection of gonorrhœa phylacogen is often distinctly unpleasant, and it is not justifiable to repeat this indefinitely when there appears to be no hope of compensatory benefit.

Reaction following Injections of Gonorrhœa Phylacogen.

After subcutaneous, and to a less extent after intramuscular, injection, the site of the injection becomes distinctly painful, the discomfort depending largely on the size of the dose and to a certain extent on the patient. Frequently it lasts well into the following day and may deprive the patient of his sleep. The general symptoms depend on the size of the dose, the patient, and the method of administration. As a general rule, intravenous injections are followed by more constitutional disturbance than intramuscular or subcutaneous. Within an hour or two of the injection there is generally a feeling of chill, and, especially after the first few intravenous injections, this may increase to a definite rigor. The temperature rises to a variable height by the same evening. Generally it reaches 100° to 101° F., but in some of my cases it rose to 104°, and in one case an intramuscular injection of 10 c.c. was followed by a temperature of 105·6°. Most of my patients who received intravenous injections suffered from headache, which was often so severe as to make them prefer the pain following an intramuscular or subcutaneous injection. The majority of patients seem to develop some tolerance to the remedy, the reaction following later not being so severe as after the initial doses.

I have treated with gonorrhœa phylacogen 16 cases, including 1 case of gonococcal arthritis and 10 of epididymitis, and the history of each of these is briefly related below. In cases where it was not contra-indicated patients suffering from urethritis received appropriate local treatment in addition. To avoid unnecessary repetition, by "phylacogen" is meant "gonorrhœa phylacogen" in the following case reports.

CASE 1.—Gonococcal arthritis two days, with very severe pain in the left hip, both knees and both ankles. Moderate swelling of visible joints. Purulent urethral discharge containing fairly numerous gonococci. Intramuscular injection of phylacogen 3 c.c. was followed on the next day by considerable relief of pain in all joints. During the succeeding four days intravenous injections of 1 c.c., 2 c.c., 3 c.c., and 4 c.c. Stiffness and pain completely disappeared and the joints became less swollen; urethral discharge containing gonococci in fair numbers persisted. Five days later return of pain and swelling in the right ankle. Seven intravenous injections of 3 c.c. phylacogen on successive days, during which pain disappeared from ankle, but the right wrist became affected on the second day and the left knee on the seventh day. Intramuscular injection of 10 c.c. phylacogen was followed by relief of all pain. Subsequent progress towards recovery was uneventful.

The history of this case, unfortunately the only one of gonococcal arthritis which I have had an opportunity of treating with phylacogen, appears to support those published by others in testifying to the good effect of phylacogen on gonococcal arthritis.

CASE 2.—Gonorrhœa 8 weeks; epididymitis 1 week. Testicle considerably swollen and rather tender, but no marked pain. Intramuscular injection of 3 c.c. phylacogen. Testicle on following day more painful. Seven intravenous injections of phylacogen during the following 13 days in doses rising from 1 c.c. by increments of 1 c.c. to a maximum of 3 c.c., the injections being generally on alternate days on account of the severity of the reactions. Swelling gradually abated but returned with slight pain on the day after the last of these injections. Intramuscular injection of 10 c.c. phylacogen was followed by relief of all pain. The patient was discharged from hospital a week later for special reasons, the testicle being then about twice the normal size but free from discomfort.

CASE 3.—Gonorrhœa 2 years, with frequent relapses of acute urethritis. Epididymitis 3 days, with severe pain and swelling. Intramuscular injections of 10 c.c., 15 c.c., and 20 c.c. phylacogen during first four days; the testicle became slightly smaller and more comfortable. Intramuscular injection of 20 c.c. phylacogen two days later and six subcutaneous injections of 5 c.c. phylacogen on successive days. Progress much the same as in similar cases treated without vaccine. Urethral discharge continued, with fairly numerous gonococci.

CASE 4.—Gonorrhœa 21 days; epididymitis one day. Five subcutaneous injections of phylacogen in doses increasing from 1 c.c. to 4 c.c. on alternate days. Local and general reaction after each injection fairly severe. Progress apparently uninfluenced by phylacogen.

CASE 5.—Epididymitis one day, with considerable pain and swelling. Intramuscular injection of 5 c.c. phylacogen followed by four intravenous injections on successive days and in doses increasing from 1 c.c. to 3 c.c. Each injection followed by severe reaction. No improvement. Two days later intramuscular injection of 15 c.c. phylacogen was followed by considerable relief of pain. Dose repeated two days later, but two days after this severe relapse of pain and swelling. Phylacogen discontinued and polyvalent stock vaccine commenced in weekly doses. This was followed by steady improvement and there was no further relapse. In this case a large dose of phylacogen seems to have relieved pain, but steady administration of the remedy failed to prevent a severe relapse.

CASE 6.—Gonorrhœa 21 days; epididymitis 4 days. Epididymis moderately swollen, rather tender, but not very painful. Three intramuscular injections of 10 c.c. phylacogen on alternate days, each injection being followed by severe reaction. Testicle on the fifth day not so tender. From the seventh to the thirteenth day of phylacogen treatment six subcutaneous injections of phylacogen, commencing with 1 c.c. and increasing by 1 c.c. to a maximum of 5 c.c. Relapse of pain and swelling on the thirteenth day. Subcutaneous injections continued on fourteenth and fifteenth days. Testicle became more comfortable, but remained considerably enlarged. Urine on the fifteenth day showed numerous threads containing gonococci.

CASE 7.—Gonorrhœa 6 weeks; epididymitis 2 days, with considerable pain in vas deferens. Had previously suffered from metastatic gonococcal conjunctivitis, which cleared up under ordinary vaccine treatment. Intramuscular injections of 4 c.c., 5 c.c., 6 c.c., and 8 c.c. phylacogen on first four days. Pain in the vas disappeared after first injection, but returned on the fifth day, with increase of pain in the epididymis. Intramuscular injections of 10 c.c. phylacogen on the sixth and eighth days were followed by great relief of pain. After five intravenous injections of 1 c.c. to 3 c.c. phylacogen during the succeeding week epididymis was free from pain, but about twice its normal size.

CASE 8.—Gonorrhœa three months. One month after infection commenced very severe epididymitis, which was treated with vaccine and puncture of the epididymis. Testicle had become practically normal, but phylacogen treatment was commenced on account of slight return of pain and swelling, threatening a relapse of epididymitis, and to observe its effect on persistent gleet. Intramuscular injection of 2 c.c. phylacogen was followed by disappearance of pain. Two days later intramuscular injection of 5 c.c. phylacogen, and during the following week five intravenous injections in doses rising by increments of 1 c.c. to a maximum of 3 c.c. At the end of this time a small nodule remained in the epididymis and gleet persisted, with gonococci as numerous in the discharge as before commencing injections with phylacogen.

CASE 9.—[illegible] Epididymis [illegible] enlarged. [illegible] cogen given [illegible] resolution of the epididymitis. Intramuscular injection of 5 c.c. phylacogen followed by three intravenous injections of 1 c.c. to 3 c.c., and then an intramuscular injection of 15 c.c. phylacogen. No apparent effect on gleet or epididymis.

CASE 10.—Gonorrhœa 5 weeks; epididymitis 3 weeks. Epididymis no longer painful, but hard and generally enlarged. Phylacogen given to test its effect in hastening resolution. Subcutaneous injections of 3·5 c.c. and 5 c.c., intramuscular injections of 6 c.c., 8 c.c., 10 c.c. and 10 c.c. on first, second, third [illegible] Five intravenous injections [illegible] five days. Progress towards [illegible] treated on ordinary lines.

CASE 11.—Gonorrhœa 18 months, with interval of freedom from symptoms for 12 months. Epididymitis 2 months, with muco-purulent discharge containing numerous gonococci. On commencement of phylacogen treatment epididymis slightly enlarged, but free from pain and tenderness. Urethral discharge persistent. Eight intramuscular injections of phylacogen on alternate days, commencing with 5 c.c. and increasing steadily to 20 c.c. No apparent effect on urethral discharge or in hastening resolution of epididymitis.

CASE 12.—Gonorrhœa 5 weeks. Gleet, with fairly numerous gonococci in discharge. Intramuscular injections of 3 c.c., 4 c.c., and 5 c.c. phylacogen on successive days; five intravenous injections, increasing from 0·5 c.c. to 3 c.c. during the following week, each of these being followed by marked reaction with severe headache. An attack of influenza then intervened and phylacogen was discontinued for a week. On resumption of phylacogen discharge still persisted, but disappeared after two further intravenous injections of 3 c.c. The disappearance of the discharge in this case may possibly have been due to the phylacogen, but sudden disappearance of urethral discharge at this stage of the disease is fairly common in cases treated by other methods.

CASE 13.—Gonorrhœa 3 weeks. Para-urethral abscess 1 cm. behind the glans penis 2 weeks. During this time the swelling had decreased from about the size of a butter-bean to that of a pea. [illegible] fairly numerous gonococci. [illegible] c.c. and 4 c.c. and eight [illegible] to 3 c.c. phylacogen on successive days. At the end of this time the swelling was of the size of a grape seed, and the discharge was still present, with gonococci in approximately the same numbers as before commencing phylacogen treatment.

CASE 14.—Gonorrhœa 6 months. Slight urethral discharge containing scanty gonococci (about one pair in ten fields). Ten subcutaneous injections of phylacogen in doses increasing gradually from 1 c.c. to 5 c.c. on successive days, the larger doses being followed by severe local reaction. Discharge and numbers of gonococci apparently unaffected.

CASE 15 [illegible] the penis, with consi[illegible] Intramuscular [illegible] ction of 2 c.c. phylacogen on successive days were followed by no relief. Hot sitz baths were ordered. Pain was considerably easier on the third [illegible] venous injections o[illegible] fourth days, by wh[illegible] appeared. Return of pain and swelling on the sixth day. Intramuscular injection of 10 c.c. phylacogen was followed by disappearance of pain. Urethral discharge continued unabated, with numerous gonococci. No phylacogen administered from the eighth to the fourteenth days, by which time discharge had become rather more profuse. Intramuscular injection of 10 c.c. phylacogen was given on the fourteenth day, followed by nine subcutaneous injections of 3 c.c. At the end of this time signs of abscess of the left lobe of prostate showed themselves in severe pain on micturition and a rapid rise of temperature to 104° F., and on the following day there was considerable pain in the right thigh and knee. Phylacogen treatment was discontinued as small doses had failed to avert the complications mentioned, and the patient was too unhappy to risk the addition of the severe reactions which follow larger doses of phylacogen. Ionisation of the thigh and knee with salicylic ions was followed by immediate relief of pain there, and four days later the prostatic abscess burst into the urethra.

CASE 16.—Gonorrhœa 2 weeks; acute prostatitis 4 days, with very severe pain and no sleep for two nights. Intramuscular injection of 5 c.c. phylacogen was followed by complete relief of all pain. At the same time the urine became loaded with pus. Phylacogen continued for one week with daily intramuscular injections in doses increasing to 10 c.c. It was then omitted for one week, at the end of which time the prostatic pain returned. An intramuscular injection of 10 c.c. phylacogen was again followed by complete relief of the pain. Subsequent progress uneventful.

It would appear from the above cases that in my hands phylacogen has been chiefly successful in relieving pain, and this was especially marked in the case of gonococcal arthritis. In this case also it appears to have hastened recovery, but the same cannot be said for its effect on urethritis and epididymitis, and I have not been able to convince myself that it has any particular therapeutic value in these forms of gonococcal infection. Possibly my lack of success has been due to errors in the administration of phylacogen. If so, I can only hope that others, profiting by my mistakes, may achieve greater success. As far as can be judged from such a limited experience, the effect of phylacogen in relieving pain seems to be more marked after large than small doses, and it is possible that this is because the former are followed by more febrile reaction, which, temporarily at any rate, inhibits the activity of the gonococcus.

I have made a large number of tests to ascertain whether the blood serum of patients suffering from gonococcal infections deviates complement in the presence of phylacogen as antigen, but by a method which is sufficiently delicate to demonstrate antibodies to ordinary gonococcal antigen in most cases of ordinary gonorrhœa I have failed to demonstrate antibody to phylacogen. Possibly this is because phylacogen contains antigen in such a weak dilution that it cannot be used as antigen in a complement deviation test. The presence of phenol in the commercial product puts a limit on the amount of it which can be used in a complement-deviation test, and it would be interesting to test it after concentration and in the absence of phenol.

RADCLIFFE INFIRMARY, OXFORD.—The Chancellor of the University of Oxford, Lord Curzon of Kedleston, will open the new buildings of the Radcliffe Infirmary on Wednesday afternoon, Nov. 26th, at 2.30 o'clock, after luncheon in the hall of Queen's College.

REPORT AND REMARKS ON A SMALL EPIDEMIC OF POLIOMYELITIS,

OCCURRING IN THE PRACTICE OF G. H. JONES, M.R.C.S. ENG., L.R.C.P. LOND., AND G. M. W. HODGES, M.B., B.S. LOND., OF DEDDINGTON, OXON.[1]

BY PAUL B. ROTH, F.R.C.S. ENG.,

SURGEON, KENSINGTON AND FULHAM GENERAL HOSPITAL; SENIOR ORTHOPÆDIC CLINICAL ASSISTANT, LONDON HOSPITAL.

THIS epidemic consisted of six cases,[2] which occurred in five small villages around Deddington between August 9th and Sept. 15th, 1911. There was no death.

The sex, age, and order of attack of the cases are best shown in the following table:—

Case.	Age.	Sex.	Date of Onset.
1	8½ years	Boy	August 9th
2	1 10/12 ,, ...	,, ...	,, 13th.
3	9/12 year	,, ...	,, 16th.
4	4 years	Girl	,, 17th.
5	1 year	Boy	Sept. 11th.
6	10/12 ,, ...	,, ...	,, 15th.

Nature of onset.—Case 1: Occipital headache, head retraction and vomiting, temperature 103·2° F. Cases 2 and 3: Fever and vomiting. Case 4: Fever, headache, and vomiting. Case 5: Fever and drowsiness, temperature 101·4°, and according to mother headache. Case 6: Fever and restlessness, temperature 103–105°, and according to mother headache. Cases 1 and 6 may be regarded as severe cases, the others as slight ones. In all except one the acute symptoms lasted 2–4 days, and were then followed by pain and paresis; the pain in the affected limbs was a marked feature. As the pain and paresis developed the acute symptoms gradually subsided. In Case 6 there was pain for 6 days, and temperature 103–105°, after the appearance of paralysis. In Case 1 there was an unusual symptom, urinary retention.

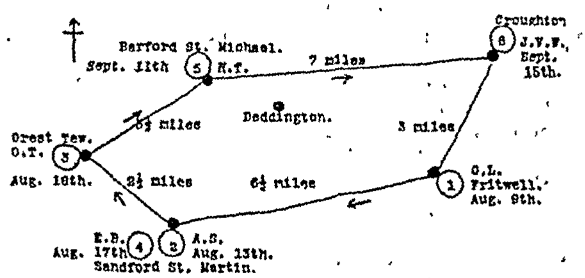
Parts affected.—Case 1: Both legs, right shoulder, arm, and forearm. Case 2: Both legs. Case 3: Both legs and perhaps erectores spinæ. Case 4: Left leg, both forearms, right side of face, right external rectus causing internal strabismus. Case 5: Right shoulder muscles and sterno-mastoid causing typical wryneck. Case 6: Both legs and erectores spinæ.

Recovery (as observed in July, 1913).—Case 1: The right leg recovered to some extent, the shoulder girdle, arm, and left leg remaining the same. Case 2: Made an excellent recovery, but there is a fair amount of wasting in the left thigh. Case 3: Now has only slight foot-drop in one foot. Case 4: Made a perfect recovery with the exception of the face, in which, however, she lost the strabismus. Case 5: The sterno-mastoid recovered, but the shoulder muscles remain paralysed. Case 6: Made a good recovery; now "tends to trip with left foot owing to the slight foot-drop."

Remarks on the mode of infection.—The question of how the infection could have been conveyed in this epidemic is of interest.

Dr. Hodges says: "The cases were somewhat widely scattered, only Case 4 and Case 2 occurring in the same village, and these two lived under entirely different conditions and had never met. They were attacked only four days apart. It is certain none of the cases met each other before their attacks either at school or at school treats, nor had their parents met. The half-sister of Case 2, however, attended the same school as the family of Case 4." Dr. Hodges has made a rough diagram, which I have slightly altered (Fig. 1), to demonstrate the distances between the cases. A glance at it at once shows (1) the impossibility of direct infection in these cases; and (2) that the cases were affected one after the other in a circular manner.

FIG. 1.



Sketch map showing distribution of cases. The black dots indicate villages.

In one of his letters to me Dr. Hodges wrote: "*The only point in their environment which is the same in all cases is the close proximity of stables.*" Thus in Case 1 there is a cattle-yard immediately behind the house; Case 2 lives in a lodge by the stable-yard of S—— Park; Case 3's father is a farmer; Case 4's father is a farm labourer; Case 5's father is a blacksmith; and Case 6 lives in a cottage with a stable immediately behind it.

That this environment may be of extreme importance is shown by the work of Dr. Milton J. Rosenau, of Harvard Medical School, whose experiments have been confirmed by John F. Anderson and Wade H. Frost.[3] They say:—

> To summarise, three monkeys exposed daily to the bites of several hundred Stomoxys, which at the same time were allowed daily to bite two monkeys suffering from poliomyelitis caused by intracerebral inoculation, developed quite typical symptoms of poliomyelitis eight, seven, and nine days respectively from the date of their first exposure.

That is to say, they demonstrate conclusively that poliomyelitis can be transmitted from monkey to monkey through the agency of this fly. On inquiry I find that the fly Stomoxys calcitrans is also found in large numbers in this country, and in most inhabited parts of the world, tropical as well as temperate. Mr. Ernest E. Austen, of the British Museum (Natural History) writes[4]:—

> (Stomoxys calcitrans)—a species often met with even in the centres of large towns, though commoner in the suburbs and found almost everywhere in the country[5]—is a blood-sucking fly which is sometimes mistaken for Musca domestica (the house-fly), with the result that the house-fly is occasionally alleged to have inflicted a bite, although its proboscis is merely adapted for sucking and is quite incapable of piercing the skin. Though agreeing with the house-fly in length, Stomoxys calcitrans is of a somewhat broader and more thick-set shape (see Fig. 2), and may readily be

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[1] A paper read before the Orthopædic Subsection of the Royal Society of Medicine.

[2] Dr. Hodges writes: "At the time of this little epidemic there was to the best of my recollection and as far as I can gather from case-notes, no case of "influenza" in our practice. Another curious point was that we seemed to have a monopoly of poliomyelitis, none of the three other practitioners covering the district having a case."

[3] Transmission of Poliomyelitis by Means of the Stable Fly (Stomoxys calcitrans). Public Health Reports, Oct. 25th, 1912, vol. xxvii., No. 43.

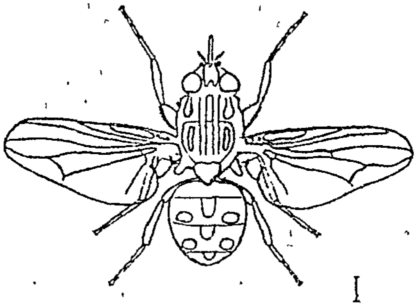
[4] The House-fly as a Danger to Health, 1913.

[5] The geographical ran[illegible] yet been fully elucidated, but it is [illegible] is generally distributed in Euro[illegible] North America, where it is said to be very comm[illegible] A race of it is found in the Gambia Colony, West Africa, and it has also been recorded as occurring in Hong-Kong, Batavia (Java), Ceylon, and Sydney (New South Wales). A specimen from the Naini Tal District, in Northern I[illegible] British Blood-Suckin[illegible]

distinguished from Musca domestica (see Fig. 3) by the character of its proboscis, which is rigid and slender, and is always visible, projecting like an awl horizontally in front of the head. (Moreover) the fourth longitudinal vein in the wing of this fly, although somewhat bent up at the end, is not sharply elbowed as in the house-fly.

These flies breed in decaying vegetable matter, are found about stables and cowsheds, and are frequently to be seen in large numbers resting on gates and rails and fences. They are most prevalent in August and September. They attack human beings as well as horses and cattle.[6] The bite is a minute puncture inflicted by the proboscis.

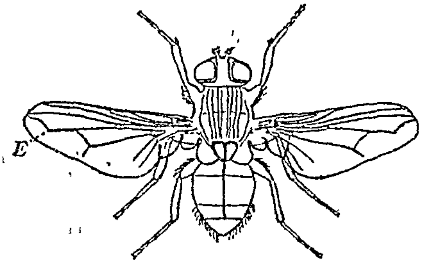
FIG. 2



Sketch of stomoxys calcitrans (female). From "The House Fly," C. Gordon Hewitt. 1910.

Before giving any opinion on this matter there is one fact to which I must refer—the recent discovery at a place named Borna, near Leipzig, of a disease in horses which seems closely allied to poliomyelitis. This has been named the "Bornasche Krankheit"[7]; a similar disease in horses has also been described in other parts of Germany.

FIG. 3.



Sketch of house fly, musca domestica (female). F, elbow. From "The House Fly," C. Gordon Hewitt. 1910.

Conclusions.—The points to which I wish to direct attention are: 1. "That the infective material (in the laboratory) is very resistant to cold and the disease much more common in warm weather, and yet that the epidemics stop as soon as the cooler weather comes, would suggest that the infection is carried by some insect that is killed or disappears as soon as the summer ends."[8] 2. It has been proved that the disease can be transmitted from an infected monkey to a healthy monkey by the bites of the flies Stomoxys calcitrans. 3. These flies are found in all countries where epidemics of poliomyelitis have been described as occurring. 4. A favourite habitat of the flies is stables and cowsheds. 5. These flies bite horses and cattle and human beings. 6. A disease similar to poliomyelitis occurs in horses. 7. In the epidemic here reported the infection could not possibly have been direct. 8. There were *stables or cattle-yards* very close to the houses of the children affected.

From a consideration of these points I suggest that this epidemic was originated by infected Stomoxys biting Case 1 in the cattle-yard at Fritwell; that the infected patient was bitten by other Stomoxys which in turn became infected and were carried by horses or cattle, or on carts and wagons,[9] to the stableyard at Sandford St. Martin, where two more children were bitten and became infected, and so on through the other three villages. If this theory—viz., the transmission of poliomyelitis by the Stomoxys—should prove to be correct, not only for this particular epidemic, but for all other epidemics of poliomyelitis, then it should be possible, by a wholesale crusade against this species of fly, to banish the disease from large regions of the globe.

Notes of Cases.

CASE 1.—Male, aged 8½ years, father a farm bailiff, cattle-yard immediately behind house. Onset on August 9th, 1911; taken ill with severe occipital headache, head retraction, and vomiting; temperature 103·2° F. On the 11th the vomiting ceased and the headache was less, when there appeared weakness of both legs with much pain, both knee-jerks were lost, the right plantar reflex was flexor, and the left was absent. Kernig's sign was not present. Temperature 101·6°. On the 13th the boy was very ill. There was constant pain in both legs and the right shoulder, which had now become involved. The muscles chiefly affected appeared to be the extensor group of the thigh and the peroneal in the lower limbs, and the deltoid in the shoulder. Temperature 100·8°. There were retention of urine (catheter passed twice) and obstinate constipation only relieved by enemata. On the 15th the temperature was normal and the pain less; urine was passed naturally, and the bowels were opened with aperients. After-history: The boy gradually improved. In November the following muscles showed the reaction of degeneration—deltoid, coraco-brachialis, biceps, brachialis anticus, triceps, extensor carpi radialis, longior or brevior, in right upper extremity; hamstrings, quadriceps, adductors, tibialis anticus, and gastrocnemius in left lower extremity. He went to the Orthopædic Hospital at Birmingham, with the result that the right leg recovered to some extent, the shoulder girdle, arm, and left leg remaining the same.

CASE 2.—Male, aged 22 months, father a gardener, lives in a lodge by the stable yard of S—— Park. Onset on August 13th, 1911, with fever and vomiting. The child was first seen on the 18th, when there were paresis and pain in both legs, the muscles chiefly affected being the hamstrings on both sides and quadriceps of left thigh. The knee-jerks were absent, the right plantar reflex was doubtful, and the left extensor. After-history: The patient gradually made an excellent recovery, and he now walks well, but there is a fair amount of wasting in the left thigh.

CASE 3.—Male, aged 9 months, father is a farmer. Onset on August 16th, 1911, with fever and vomiting. On the

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[illegible] ...lence of the ...rses at Long ... Mr. Austen, [illegible]

[illegible] (Paper by Professor Joest.)

[8] Remarks by Professor Rudolf (Toronto) on Dr. F. E. Batten's paper [illegible] at the British Medical Association annual [illegible] 1911, p. 402.

[illegible] Austen, loc. cit., 3.

18th there were pain and paresis of the quadriceps and hamstrings of both thighs. The knee-jerks were unobtainable; the extensors of the spine were probably involved. After-history: The patient gradually recovered, and now the left leg is half an inch shorter than the right, and there is slight foot-drop.

Case 4.—Female, aged 4 years, father a farm labourer. Onset on August 17th, 1911, with fever, headache, and vomiting. On the 23rd she was first seen; she complained of pain in both forearms. There was paresis of the extensors of both wrists with double wrist-drop. Very marked right facial paralysis was also present, the orbicularis palpebrarum and muscles of the mouth being especially affected. There was some weakness of the left leg, but no pain. The right knee-jerk was normal and the left diminished; the right plantar reflex was flexor and the left extensor. Temperature 99·4° F. On the 26th right internal strabismus developed. On the 30th the left plantar reflex was flexor, but was obtained with difficulty. After-history: The girl gradually made a perfect recovery with the exception of the face, in which, however, the strabismus was lost.

Case 5.—Male, aged 1 year, father a blacksmith. Onset on Sept. 11th, 1911, with fever and drowsiness, and the mother says headache. On the 14th the infant was first seen. There were pain and paresis of the right shoulder; the deltoid and sterno-mastoid appeared chiefly involved with typical wryneck. Temperature 101·4° F. After-history: The sterno-mastoid quickly recovered, but there remains paralysis of the deltoid, supra- and infra-spinatus, subscapularis, the upper part of the trapezius, and the coraco-brachialis.

Case 6.—Male aged 10 months; stable immediately behind the cottage. Onset on Sept. 15th, 1911, with restlessness and fever, and the mother says headache. On the 18th, when the child was first seen, the hamstrings and quadriceps of both thighs were involved with much pain and also the erector spinæ. The pain was too severe to be sure of the knee-jerks. Temperature 104·2° F. The pain was very marked for the next six days, and the temperature remained at 103°–105°. After-history: Eventually the patient made a good recovery and now walks well, but tends to trip with the left foot owing to slight foot-drop. There is some slight wasting of the extensors and adductors of the thigh and the peronei of the leg on the left side.

I am much indebted to Mr. Jones and Dr. Hodges for permission to publish their cases, and to Mr. Austen for valuable assistance in the preparation of this paper.

Harley-street, W.

NOTES OF AN

OUTBREAK OF ACUTE ANTERIOR POLIOMYELITIS AT WEST KIRBY.

By GEORGE JUBB, M.D. Glasg., D.P.H. Oxon.,
ASSISTANT MEDICAL OFFICER, CHESHIRE COUNTY COUNCIL.

The following cases of acute anterior poliomyelitis were discovered in West Kirby in 1912 and 1913, and as they present some remarkable features in their occurrence it was considered possible that their publication might be of general interest. I am indebted to Dr. J. B. Yeoman, medical officer of health for North-West Cheshire, for his kindness in giving me facilities for investigating the outbreak and permission to publish the results.

West Kirby is an urban district with about 6000 inhabitants, and it is a favourite seaside resort. It occupies a sheltered position at the north-west corner of the Wirral Peninsula. Its sanitary condition is good, it is well paved and well drained, there are a good water-supply, a water-carriage system of sewage removal, and efficient cleansing, dust being removed in covered bins, and there was found no evidence of undue accumulation of manure or other nuisance. Strict inquiries have been made, and no history can be obtained of any case of infantile paralysis having happened in the district prior to the present outbreak, the first case of which occurred on July 11th, 1912. The only antecedent condition which may possibly have some bearing on the origin of the infection was the arrival of a donkey in a verminous condition at the home of the first case. I append a brief history of the cases.

Case 1.—Male aged 6 years. The illness began on July 11th, 1912, with sickness and pains in the legs. He was treated for rheumatism for a week, and then paralysis of the left leg was discovered. His brother, 5 years old, slept with him till the illness began. Three weeks before the boy's illness his father bought a donkey from Ireland for the children. When the donkey arrived the boy, his brother, and a cousin of the same age immediately climbed on its back and in consequence got a great number of lice on their clothes, as the extremely verminous condition of the animal had escaped notice. Their clothes had to be taken off and washed, and the donkey was clipped and cleansed; it was afterwards kept for three months in a field behind the house. The boy has been away from the district from the middle of May to Sept. 25th, 1913. His grandmother has a baker's shop in the same road.

Case 2.—Female aged 2½ years. The illness began on July 6th, 1913, with headache. A medical man was sent for on the 8th, as she was delirious. Paralysis was discovered on the 10th, both hands and feet being affected; now the feet only are paralysed. This case is about 100 yards from Case 1, and the parents have a bread, cooked meat, and chipped potato business on the premises. Cases 3, 4, and 5 are customers and live quite near. There is also a connexion between Case 1 and Case 2, as the parents of Case 2 frequently get bread and yeast from the baker's shop associated with Case 1. There are other children aged 15, 13, 11, and 8 years in the house, in which there has been scarlet fever during last summer.

Case 3.—Female aged 5 years. The illness began on July 28th, 1913, with sickness and vomiting. The child was able to go out on the 28th and 29th, but paralysis occurred on the 30th. This child went to the Presbyterian Sunday School, and its parents were customers of the shop associated with Case 2. Other children are aged 13, 9, and 6 years. There was scarlet fever in the house this summer.

Case 4.—Male aged 1 year and 3 months. The illness began on August 1st, 1913, with drowsiness; on the 2nd there was headache. The child was ill for a week, and then a medical man was called in and diagnosed bronchopneumonia. At the end of another week it was discovered that there was paralysis of the legs. The other children are aged 13, 12, 9, 5, and 3 years, and go to the Presbyterian Sunday School. The parents are customers of the shop associated with Case 2.

Case 5.—Female aged 1 year and 9 months. The illness began on August 14th, 1913; the child cried all day. Paralysis was discovered on the 17th. There are no other children. The parents are customers of the shop associated with Case 2. The child was taken to see the patient in Case 3 on August 2nd when this girl was ill.

Case 6.—Female aged 6 years. The illness began on August 3rd, 1913. On the 4th she had pains in her head and dragged her left foot. On the 7th and 8th she complained of pains in her neck and legs. Both legs were paralysed and the right arm partially. On the 9th she went to a children's hospital. This case occurred about a mile from the previous cases, but in the immediate neighbourhood there are three shops (a baker's, a dairy, and a cooked meat shop) occupied by relatives of the proprietor of the cooked meat shop associated with Case 2. The dairy gets bread from the shop (Case 2) by means of a milk cart and horse. Other children are aged 16, 14, 12, 10, and 8 years. They go to the Presbyterian Sunday School, as do Case 3 and the brothers and sisters of Case 4.

Case 7.—Male aged 1 year. The illness began on August 6th, 1913, with screaming. On the 9th there was a rash on the buttocks. On the 10th the child was unconscious, and there was retraction of the head, the arms being paralysed and the neck stiff. Other children are aged 11, 8, and 6 years. The father cleans the windows of the cooked meat shop mentioned in connexion with the previous case as being in this district. This case is in the next road to Case 6.

CASE 8.—Female aged 4 years. The illness began on August 28th, 1913, with drowsiness, and squinting was noticed on the next day. The mother thought there was slight paralysis of the left leg. The child was in bed a fortnight only, and is now running about, but with a marked squint in the left eye. Other children are aged 14, 11, and 6 years. This case is across the road from the previous case.

I do not intend to enter further on the clinical features of the cases beyond drawing attention to the fact that the meningeal type prevailed. For the purpose of the present article the cases are more interesting from the epidemiological point of view.

It will be seen that there was a primary case in July, 1912, and as far as is known no others followed. During 1913 this primary case has been away from the district for treatment of his paralysis from the middle of May to Sept. 25th. Then there was a primary case in July, 1913, followed by three secondary cases in the same neighbourhood, and other three cases (one tertiary and two quaternary) grouped together about a mile away from the primary and secondary cases. It has been suggested to me that the incidence of these cases closely resembles an outbreak of typhus, and if so it seems reasonable to suspect that the spread of both diseases may be effected by means of the same agents—e.g., lice.

In Case 1 the mother definitely attributes the boy's illness to the arrival of the donkey, which, as has already been mentioned, was infested with lice, and it is interesting to note that in a great proportion of previous outbreaks of poliomyelitis there has been an apparent connexion with domestic animals. Seeing that Case 1 has been absent so long from the district this year it is probable that there was a carrier case which carried on the infection to 1913, and this might have been the younger brother if he had an abortive attack, or there may have been other atypical cases in 1912. According to Netter the serum of sporadic cases of poliomyelitis is active for two years, so that the infectivity of recent cases may be fairly prolonged.

There can be little doubt that Cases 3, 4, and 5 were infected from Case 2, though Case 5 might also have been infected from Case 3, which she visited. The infection *might* have been carried by means of flies, but as it is rather a poor neighbourhood it is just as likely that the infection was carried by means of lice.

Case 6 is the first in the third series, and she goes to a Sunday school in the district of the primary and secondary cases, attended also by Case 3 (who is about the same age) and by the brothers and sisters of Case 4. It seems probable that Case 6 was there infected and brought the infection to the new district. Cases 7 and 8 were probably infected from Case 6. There is, however, a direct communication between the two districts by a milk cart from the dairy near the tertiary case, which carries milk to the first district and brings back bread from the shop associated with Case 2. This would appear to be in favour of the theory of infection being conveyed by flies. It is worthy of notice, too, that with all the cases there was an apparent connexion with shops purveying food, and more especially bread. Their milk-supply was diverse and apparently therefore not concerned.

Transmission of the infective agent in poliomyelitis, whether it is a non-motile protozoon or not, certainly does not seem to be aerial, as in most of the West Kirby cases so many other children, presumably susceptible, were exposed to infection without developing the disease or showing signs of illness. In some of the cases other and younger children slept in the same bed with the patient up to the first day or two of the illness, and two of the cases were at an early stage transferred into different children's hospitals and nursed there, in the absence of any special precautions, without other cases arising. If the infection, then, is conveyed by a biting insect, it appears reasonable to suppose that it might just as easily be conveyed by the louse as by a biting fly, and in view of the suspicions raised regarding this possible mode of infection in the West Kirby cases it would seem desirable to secure and collect further information, where possible, bearing on this question.

Chester.

TWO CASES OF ASCITES TREATED BY MULTIPLE PARACENTESIS AND BY FEMORAL DRAINAGE.

BY W. GIFFORD NASH, F.R.C.S. ENG.,
SURGEON TO THE BEDFORD COUNTY HOSPITAL.

THE two cases of ascites here reported present several points of interest, and may for that reason merit a place in the columns of THE LANCET.

CASE 1. *Ascites treated by paracentesis, omentopexy, and femoral drainage.*—The patient, aged 48, a servant in a public house, was admitted to the Bedford County Hospital on April 29th, 1909, suffering from ascites. She had had two miscarriages at the age of 20, and when about 25 years old she had syphilis, for which she was under treatment for several months. She was then and for several years afterwards a domestic servant. Later she became a barmaid, but denies that she ever drank much alcohol, sometimes going for days without any. Her beverage was stout. For the last seven years she was nearly an abstainer. In 1905 her periods ceased and her abdomen began to swell. Early in 1908 she states that she was in the Samaritan Hospital, London, for three weeks suffering from ascites. Nothing was done. In August of the same year she went into St. Bartholomew's Hospital and was tapped, 14 pints being removed. In January, 1909, at the same hospital 20 pints were drawn off. When she left St. Bartholomew's Hospital she weighed 8 st. in her dressing-gown. She went to her home in Bedfordshire, where on March 26th, 1909, spontaneous rupture occurred at the umbilicus and 30 pints of fluid escaped. The flow continued for a fortnight.

On admission on April 29th, 1909, the abdomen measured 48 inches at the umbilicus. The liver was displaced upwards as high as the fourth rib. There was a soft swelling, 3 inches in diameter, attached to the lower ribs in the mid-axillary line. This was diagnosed as a gumma, and a mixture containing mercury and iodide of potassium was ordered. Paracentesis of the abdomen was performed on the following dates: May 2nd, 1909, 41½ pints; May 23rd, 32 pints; and June 13th, 33 pints. On June 15th the abdomen was opened above the umbilicus and omentopexy performed. There were perihepatitis and perisplenitis. The liver was about the normal size and contained numerous gummata. The spleen was much enlarged and also contained gummata. After this operation the ascites recurred and parencentesis was performed as follows: July 4th, 16 pints; July 25th, 19 pints; August 15th, 18 pints; Sept. 5th, 9 pints; and Sept. 26th, 9 pints. On Sept. 29th she was discharged from hospital and no further medicine was taken.

She returned for paracentesis as follows: Oct. 28th, 1909, 13 pints; Dec. 15th, 14 pints, and on Feb. 18th, 1910, 11 pints. On Feb. 25th a bone bobbin was inserted in the right femoral canal, incisions being made in the middle line of the abdomen and in the femoral region. The wounds healed without any leakage. In all the patient was tapped 14 times and 280 pints of fluid were drawn off.

The patient was examined on March 21st, 1911, exactly a year after leaving the hospital. She looked in excellent health and weighed in her clothes 12 st 2 lb. The swelling on the ribs had disappeared. There was no ascites. The liver could not be felt, but the spleen was considerably enlarged. No trace of the bobbin could be felt. She was seen on Oct. 25th, 1913, when there was no return of ascities. Her spleen was enlarged, her weight 11½ st., her health was excellent, and she was earning her living as a housekeeper and barmaid.

CASE 2. *Cirrhosis of liver; ascites; femoral drainage; recovery.*—The patient, a barman, aged 43, was admitted to the Bedford County Hospital on March 27th, 1912, suffering from ascites. He had enjoyed good health until Christmas, 1911, when he became jaundiced and his legs and abdomen swelled. He was admitted to St. George's Hospital, London, and tapped on the following dates: Jan. 23rd, 1912, 5 pints; Feb 6th, 14 pints; Feb. 20th, 16 pints; March 4th, 12 pints; and March 15th 15 pints There was no ascites when he was admitted to St. George's Hospital, but it developed within a fortnight. He was very ill when he left St. George's and was advised to go to an infirmary.

On admission, under my care, he was jaundiced, the abdomen was much distended, and the legs were swollen He had considerable dyspnœa. He denied any history of syphilis, and no sign of it could be found. On March 27th he was tapped and 30 pints of fluid evacuated. The liver was then felt enlarged to midway between the costal margin and the umbilicus. Small nodules studded its surface, with one large one in the gall-bladder region On April 11th the abdomen was again tapped and 17 pints removed. On the 12th a bone bobbin was inserted in the right femoral canal. Owing to re-accumulation of fluid and to prevent tension on the wound the abdomen was tapped on April 21st and 12 pints drawn off. On May 3rd 11 pints and on the 12th 9 pints were withdrawn. On July 13th he left the hospital. There was then no ascites, the liver was still the same size, and there was slight jaundice. From April 1st until he left the hospital a mixture containing mercury and iodide of potassium was given.

On Oct 27th, 1912, there was still slight jaundice, the liver showed no change, and there was a slight trace of fluid in the abdomen. On Oct. 23rd, 1913, he reported that he was quite well, with no abdominal swelling or jaundice, and that he had returned to work as a barman in the previous July.

In the first of these cases syphilis probably was the main factor in producing the ascites, as there was a distinct history of the disease and the presence of the gumma on the ribs and gummata in the liver and spleen. The occupation of the patient made one suspect alcohol as an additional cause.

In the second case there was no evidence of syphilis except the rather large nodule in the region of the gall-bladder. The occupation and appearance of the man suggested alcoholism. The presence of jaundice and œdema of the legs were also in favour of alcoholic cirrhosis. The fact that the man recovered after repeated tappings and operation is against pure alcoholic cirrhosis, as Rolleston and Hale White[1] are of opinion that such cases seldom survive more than one or, at the most, two tappings. Spontaneous rupture at the umbilicus must be a very rare event, as many authors do not even mention its occurrence.

Alcoholics are such notorious liars that it is very difficult to obtain a history of syphilis, and syphilis may have occurred without leaving any trace behind. It appears to be quite justifiable to try antisyphilitic remedies in any case in which the patient with ascites (due to liver disease) survives two or more tappings. The introduction of a bone bobbin into the femoral canal was originally suggested by Dr. W. Essex Wynter.

Bedford.

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[1] Rolleston: Diseases of the Liver, pp. 244 and 280.

POLYVALENT TUBERCULIN AND THE TYPES OF TEMPERATURE REACTION; A NEW TECHNIQUE.

BY HALLIDAY SUTHERLAND, M.D. EDIN.,
FELLOW OF THE ROYAL SOCIETY OF MEDICINE; MEDICAL OFFICER TO THE ST. MARYLEBONE TUBERCULOSIS DISPENSARY.

THE design of tuberculin treatment is to induce in the infected organism a general immunity to the toxins of tuberculin in the hope that this will be associated with a relative immunity to the living tubercle bacillus. Immunity to tuberculin does not always mean immunity to tuberculosis. Theoretically the problem is as follows. If tuberculin were identical with the living tubercle bacillus, how should an organism infected with the latter give an immunising response to the first? Again, if the two were entirely different an immunity to the one would not represent an immunity to the other. Therefore, the more a tuberculin corresponds, without absolute similarity, to the infecting tubercle bacillus the more likely is an immunity to tuberculosis to be attained. The late Professor Arloign, of Lyons, used an attenuated living culture to immunise bovines against a lethal dose of a virulent culture. Webb, of Colorado, has injected small quantities of an attenuated living culture of human tubercle bacilli into children. In general vaccine treatment autogenous vaccines have been found most useful. Tuberculins contain either the exotoxins or the endotoxins of the tubercle bacillus. It is possible that a tuberculin might raise the immunity to the endotoxins without affecting immunity to the exotoxins. All who have worked with tuberculin have obtained excellent results in some cases and indifferent results in others. This might be due to the tuberculin employed not sufficiently approximating in its chemical constitution to the tuberculous toxins in the patient's system. On these grounds I began to use in October, 1911, a polyvalent tuberculin of the following constitution in each cubic centimetre—tuberculin Koch, 0·025 c.c.; bovine tuberculin, 0·025 c.c.; vacuum tuberculin, 0·025 c.c.; bovine vacuum tuberculin, 0·025 c.c.; tuberculin T.R., 0·05 c.c.; bovine tuberculin T.R., 0·05 c.c.; bacillary emulsion, 0·033 c.c.; bovine bacillary emulsion, 0·033 c.c.; polygenous bacillary emulsion, 0·034 c.c.; T.O.A., 0·35 c.c.; and P.T.O.$_v$, 0·35 c.c. (Prepared for me by Messrs. Allen and Hanbury.)

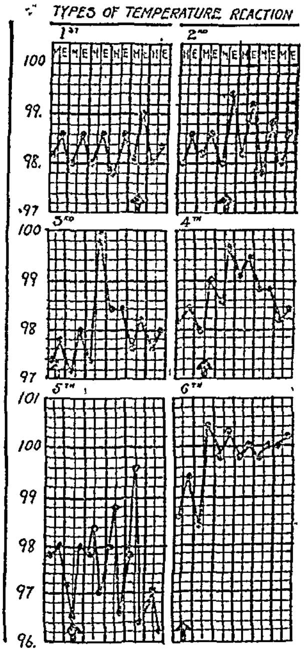
Preparation of dilutions.—Nine dilutions are made from the pure polyvalent tuberculin by measuring 18 c.c. of 0·8 per cent. sterile NaCl solution into sterilised glass-stoppered bottles marked D_1, D_2, D_3, D_4, D_5, D_6, D_7, D_8, and D_9. To the solution marked D_1 add 2 c.c. of pure polyvalent tuberculin and mix well. By adding 2 c.c. of D_1 to the saline solution in the second bottle D_2 is prepared, and so on. Each dilution is thus ten times weaker than its predecessor. The dilutions are made in the cold. With ordinary asepsis they retain their properties for two to three weeks. When the pure tuberculin and its dilutions have stood for some hours the bacterial débris settles as a fine precipitate. If the solution be gently rotated this débris rises like a thin, curling column of white smoke into the supernatant fluid, and forms a perfect emulsion. After two or three weeks the débris in the dilutions will become agglutinated, when fresh dilutions must be prepared. The pure polyvalent tuberculin will retain its properties for several months. Bacterial contamination of the solutions is indicated by small, round, white, fluffy growths or by surface moulds.

Cases suitable for tuberculin.—It is impossible to consider the selection of cases in terms of a purely anatomical classification (Turbans), and the question is best discussed on the basis of a clinical classification such as Philips's. The following groups are suited for tuberculin treatment. The early tuberculous infections of childhood, as represented by L_1 and L_2, are given tuberculin as a prophylactic. In old arrested lesions, indicated by L_3, tuberculin is employed to prevent a relapse. In L_1s and L_2s we have cases where the active onset is recent, systemic intoxication slight; and again, there are the old-standing chronic cases with little systemic disturbance, represented by L_3s. All these do well on tuberculin. By L_1S we mean early local disease with equivalent systemic intoxication, which should be combated by rest in bed, and when the large S has been converted into a small s, tuberculin may be given either at home or at a sanatorium. In the same way L_2S and L_3S may be treated with tuberculin.

Precautions of administration.—The patient must chart his temperature, and is required to record on his chart the pulse rate and the daily amount of sputum. Female patients should draw a black line on the chart during the menses, as the menstrual rise might simulate a reaction. Pregnancy is not a contra-indication, even with a slight degree of albuminuria. The temperature should be taken at 8 A.M., 4 P.M., and 8 P.M. While rectal temperatures are most accurate, it is difficult outside a sanatorium to get ambulant patients to take their temperatures in this way, and in these cases axillary temperatures are more reliable than readings in the mouth. Injections are made with a German Record syringe, platinum iridium needle, graduated to 1/50th c.c. The syringe is washed out before and after each injection with pure ether, and the patient's skin may be wiped with ether. The injections are made subcutaneously on the anterior aspect of the upper arm about the middle of the biceps, where the skin is least sensitive and one is able to avoid veins and nerves.

The principles of dosage.—The dose of tuberculin is gradually increased on the assumption that the more the patient can tolerate with safety the greater is the immunising response. A mechanical dosage is impossible since the optimum dose will depend on the patient's condition, and a dose of tuberculin is large or small, according to its relation to the degree of systemic intoxication. The geometrical progression I have found most serviceable is the quarter, and the ten doses in each solution are 0·13 c.c., 0·16 c.c., 0·2 c.c., 0·25 c.c., 0·32 c.c., 0·4 c.c., 0·5 c.c., 0·63 c.c., 0·79 c.c., and 1 c.c. The injections are given once or twice a week according to the patient's condition, and the initial dose is usually D_6 1 c.c. or D_7 1 c.c. The correct dose will adjust the balance on the side of immunity by the relation of the amount of tuberculin injected to the general condition of the patient, of which the first is under our control, while the second may be measured by clinical methods. The early case of slight severity allows a wide margin for error, and to this I attribute not only the brilliant results of careful treatment, but also the benefit which has occurred in spite of haphazard methods. In advanced disease the conditions are very different. The patient is being poisoned by massive doses of toxin from his own system, and the mechanism of immunity is almost in full abeyance. It is reasonable to presume that the dose of tuberculin should be reduced to meet a lowered vitality, so long as sensitiveness is still present. This may be partly judged by the local reaction, and I have seen a marked local reaction follow an injection of D_{10}1 c.c., polyvalent tuberculin, or 1/10,000,000,000th of a cubic centimetre. In cases of advanced disease with secondary infection these infinitesimal doses may be combined with the administration of an autogenous vaccine.

The types of temperature reaction.—The general reaction to tuberculin includes a group of symptoms referable to the toxic properties of this agent on the neuro-muscular systems. These symptoms are of major clinical importance since they are produced by a smaller dose than will cause a focal reaction. Of the whole group the temperature reaction is the key to successful treatment. None will deny that the failures of the early tuberculin era were due to ignoring temperature reactions. While that is generally admitted, the error continues of referring to reactions as if they differed in degree but not in type. From a failure to differentiate between the types of temperature reaction, two rival schools of the reaction and the reactionless method have arisen. The absolutely incompatible theories, the contradictory published results, the general confusion of thought in the mind of the profession generally, require no recollection. The truth of the matter is that both schools are right. There are some reactions which all may disregard with impunity. There are others which no intelligent physician will dare to overlook. I also suggest that in these types of temperature we have an accurate and scientific indication as to dosage. (See chart.)



Before proceeding to describe these types it is postulated that a rise of temperature, even of half a degree Fahrenheit above the mean, occurring within 72 hours of an injection of tuberculin is to be regarded as a reaction. A rise of temperature reaching its maximum within 24 hours of an injection is an *immediate reaction*, and may occur four hours after the injection. A rise of temperature reaching its maximum within 48 hours of the injection is a *delayed reaction*. A rise of temperature reaching its maximum within 72 hours of the injection is a *progressive reaction*. Now, since all pyrexia must resolve either by crisis or by lysis, it is clear that there may be six types of reaction. This is confirmed by observation.

1. *An immediate reaction with a fall by crisis.*—This, the mildest form of reaction, is due to the tuberculin injected, which is followed by complete immunising response. From the point of dosage it is of least significance, since the dose may be later increased and no reaction occurs.

2. *An immediate reaction with a fall by lysis.*—Here, in addition to the immediate reaction to the tuberculin, there are secondary oscillations due to incomplete immunising response. At the next injection the dose should be reduced by one-fifth the amount—that is to say, from 0·5 c.c. to 0·4 c.c.

3. *A delayed reaction with a fall by crisis.*—In this there is delayed absorption of the tuberculin followed by complete immunising response. The same dose may be repeated at the next injection.

4. *A delayed reaction with a fall by lysis.*—Here there is not only delayed absorption of the tuberculin, but an incomplete immunising response. The amount next injected should be reduced to one-half of the previous injection—e.g., from 0·79 c.c. to 0·4 c.c.

5. *A progressive reaction with a fall by crisis.*—In this there is not only an immediate reaction, but increased toxæmia from a focal reaction, eventually overcome by immunisation. This is the type of most serious significance, and if not regarded it will be followed by a violent summation temperature or by a gradual and persistent pyrexia, due to prolonged focal reaction. The dose of tuberculin must be reduced to one-tenth at the next injection—from D_61 c.c. to D_41 c.c.

6. *A progressive reaction with a fall by lysis.*—Here a focal reaction is not overcome by immunisation. The disease is lit up in the pulmonary lesion, and may progress by secondary tuberculous bronchopneumonia, of which this temperature is typical. Tuberculin treatment must be stopped, as otherwise the patient will pass into a condition of chronic tuberculous cachexia. The example of this type illustrated in the temperature chart occurred in my practice before one had appreciated the significance of the fifth type as a warning.

In their order of severity these types of temperature reaction are as follows: *a*. Immediate reaction with a fall by crisis—increase dose. *b*. Delayed reaction with a fall by crisis—repeat dose. *c*. Immediate reaction with a fall by lysis—reduce dose by ⅕. *d*. Delayed reaction with a fall by lysis—reduce dose by ½. *e*. Progressive reaction with a fall by crisis—reduce dose to 1/10. *f*. Progressive reaction with a fall by lysis—stop tuberculin.

Results of treatment.—The following are the immediate results of treating 131 patients, ambulant cases, with polyvalent tuberculin on these lines at the St. Marylebone Tuberculosis Dispensary. The record does not include patients who received prophylactic injections. The time of treatment varied from 3 to 25 months. I have used Philip's classification, and a division is made between those whose sputum contained tubercle bacilli and those in whose expectoration the tubercle bacillus was not found. The word "cure" is avoided, but the words "disease arrested" implies that the patient presents neither symptoms nor any signs of active disease.

—	T.B. −			T.B. +			
	L_1s	L_2s	L_3s	L_1s	L_2s	L_3s	L_1S
Dead	—	—	—	—	—	—	1
Worse	2	—	1	1	2	5	5
In statu quo	10	1	—	—	—	—	3
Improved	36	24	4	1	3	8	5
Disease arrested	6	6	5	—	1	1	—
Totals	54	31	10	2	6	14	14

Allsop place, W.

TUBAL GESTATION CONTINUING TO THE SIXTH MONTH AFTER RUPTURE AT THE SIXTH WEEK.

BY ROBERT NAIRN, F.R.C.S. ENG., L.R.C.P. LOND.

THE following is an account of a condition which is perhaps sufficiently rare to deserve publication in THE LANCET.

The patient, who had been married for six years, had had no children. The cervix was long and narrow, with a small os; the os had been twice dilated. Menstruation had always been painful at first, but it was regular. When seen on Jan. 25th, 1912, the patient complained that after missing one period menstruation had now gone on for nearly three weeks. Her last period had been on Nov. 24th, 1911. On Jan. 7th, 1912, menstruation began with an unusual amount of pain, especially inside the right hip. There were numerous blood clots. This lasted for about three days; it then stopped, and she felt well till Jan. 11th. She then had violent pains which lasted until the following day, when there was free bleeding for about an hour. It was not pure blood that came away, being very pale, like blood mixed with water. On the 13th there was a little "blackish" blood passed, and since then there had been a constant discharge of brownish matter.

On examination the breasts were found to be rather full, and they were slightly painful. The uterus was tender and immovable, with thickening all round it, and a brownish purulent discharge from the os. The temperature was 100·4°F. A diagnosis of miscarriage with subacute parametritis was made. On Jan. 26th the patient was curetted and given hot douches frequently. The curette went in rather to the patient's left. The discharge almost stopped after this, and the temperature remained normal until Feb. 18th, when it rose to over 100°, and the discharge increased, though it was lighter in colour. Hot douching was continued for four weeks longer, after which the temperature remained normal and the discharge stopped entirely. There was still tenderness, with a feeling of thickening about the uterus. On March 21st the patient felt quite well. On examination there were still immobility and matting about the uterus, which had enlarged to the right of the middle line, and a uterine souffle was heard. The breasts had distinctly enlarged. An amended diagnosis of either double pregnancy in a bicornuate uterus with miscarriage from the left cornu (normal or ruptured ectopic pregnancy) or fibroid of the uterus with miscarriage was now made. The uterus and breasts continued to enlarge through April and May, and the former was nearly up to the umbilicus.

Early in June I again examined the patient and found that the uterus had not continued to rise, and that the souffle was less distinct. Towards the end of June it was evident that the uterus had sunk. There was no souffle and the breasts were smaller.

When again examined on August 3rd a solid mass was felt per vaginam to the patient's right, but matting made it impossible to differentiate the parts. In view of the doubt as to the true condition a laparotomy was decided upon, and this I performed on August 8th, assisted by Dr. W. W. Moore and Dr. MacDonell. On examining the pelvis through the median incision the uterus and left ovary were found to be adherent to the left side. The right broad ligament was obliterated by a large fluctuating swelling in its substance, filling the pelvis; and the right ovary and extremity of the Fallopian tube were defined on the surface of this swelling. An incision parallel to the pelvic brim let out a great quantity of dark brown fluid, together with what appeared to be a five-months' fœtus with fair-sized placenta.

It was evident that a right tubal pregnancy had ruptured beneath the peritoneum at about the sixth week, and gestation had then progressed until about the sixth month, when it was stopped by want of sufficient blood supply. Convalescence was slow, but eventually the patient recovered perfectly.

Hastings, New Zealand.

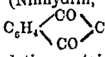
THE DIAGNOSTIC VALUE OF ABDERHALDEN'S METHOD IN CARCINOMA.

By R. St. LEGER BROCKMAN, M.R.C.S. ENG.,
L.R.C.P. LOND.,
HOUSE SURGEON AT ST. BARTHOLOMEW'S HOSPITAL.

Abderhalden, professor of physiology at Halle in Germany, in his work on ferments of the animal system has shown that the body has the power to protect itself against substances which are foreign to it if introduced by subcutaneous or intravenous methods. The injection of cane sugar and vegetable proteids will give the serum of a dog into whose system they are so introduced the power of breaking down these substances into less complex molecules—a faculty wanting in the serum of an animal not so injected.

After Veit had shown that syncytial cells were present in various parts of the body during pregnancy Abderhalden set to work to see if he could show that any attempt was made to defend the body against such invasion, especially as the toxæmias of pregnancy were being attributed to syncytiotoxins. In 1912 he published articles describing the means by which he and his pupils had been able to demonstrate in the blood of a pregnant woman the presence of a substance which has a proteolytic action on placental albumin. He also showed that such a substance is absent from the blood of males and non-pregnant women, and further that this ferment is specific, acting on placental tissue only. To do this he made use of two methods—the dialysation method used in the following cases, which will be described later, and the optical method. In this latter case 1 c.c. of a 10 per cent. solution of placental peptone and 2 c.c. of serum from the patient under question are placed in a small polarimeter tube, the initial degree of rotation of light being at once read off. The tube is now placed in an incubator at 37°C., the tube being removed occasionally and examined by means of a polariscope. Incubation was allowed to proceed up to 36 hours. Abderhalden found that the maximum change of rotation with serum from a case of pregnancy was as high as 0·2°, whilst that when any other serum was used never exceeded 0·03°. His experiments in the case of animals gave similar results. The practical value of such methods in the diagnosis of pregnancy has been testified to by Abderhalden, Veit, Schwarz, and other observers.

The object of the present paper is to show that a specific ferment is formed against carcinomatous tissue, and to demonstrate the possibility of the existence of such being made use of in the diagnosis of carcinoma. In all the following cases the dialysation method of Abderhalden has been used.

A piece of coagulated carcinoma tissue, the preparation of which is described later, is placed in a dialysing tube, made from a fish's swim-bladder. To this are added 1·5 c.c. of serum obtained from the patient whose diagnosis is in question. Outside the dialysing tube are 20 c.c. of sterile distilled water. Into a control tube are put 1·5 c.c. of serum alone, from the patient, with 20 c.c. of distilled water outside. The surface of serum and water in both cases is covered with a thin layer of toluol to exclude as far as possible all bacterial contamination. They are now incubated at a temperature of 37° C. for 12 to 24 hours. At the end of that time 10 c.c. of the diffusiate in each case are added to 0 2 c.c. of a 1 per cent. solution of a reagent known as ninhydrin. (Ninhydrin, or triketohydrindene hydrate, with a formula  $C_6H_4\left\langle\begin{matrix}CO\\CO\end{matrix}\right\rangle C(OH_2)$, gives a violet colour if heated with a solution containing minute traces of albumin, peptones, polypeptides, and amino-acids. It gives a reaction with all substances in which the amido group is in a position to carboxyl.) The solution is raised to the boiling point and maintained at that temperature for one minute. If at the end of that time no change takes place in either case the test is negative. If, however, in the case of the one containing carcinomatous tissue a violet colour results whilst the other remains colourless, then a positive result has been recorded. In many cases a brownish tint remains after boiling. This has no connexion with the unmistakable violet colouration of a positive result.

The coagulated cancer tissue was the same for all the following cases. It was obtained from a woman with a large spheroidal-celled carcinoma of the breast. As soon as the breast had been removed by a complete Halstead operation the carcinoma was carefully separated from fat and breast substance. It was then cut up into small pieces which were dropped bit by bit into a beaker of boiling distilled water to which a few drops of glacial acetic acid had previously been added. It was boiled thus for half an hour. The tissue was then washed carefully in distilled water for 12 hours. It was kept ready for use in cold storage in dis- water tilled with a layer of toluol on top. Before any was used it had been kept thus for three weeks. The water in which it had been standing was then tested with ninhydrin with a [illegible] had been negative result, thus showing [illegible] efficiently coagulated. It w[illegible] saline, and healthy human se[illegible] in all cases gave no reaction [illegible] of dialysable products, sufficient to nullify the test, in this cancer tissue was thus excluded. The dialysing tubes were then tested as regards their permeability to peptones and their impermeability to colloids. Those which fulfilled these conditions were then used for the tests—all others being rejected. In referring to certain pitfalls and sources of error which await one in doing this test I will describe the method employed in collecting the serum in these cases.

In the first place the fingers must be absolutely excluded from any direct part in the test. A drop of ninhydrin on the skin, especially if at all moist, will leave a deep violet stain. The contamination of the outer side of a tube with a finger, prior to dialysis, is sufficient to give a positive reaction on testing the diffusiate with ninhydrin. A pair of sterile forceps was used in these cases to lift tubes and tissue.

A trace of saliva will equally well give a positive reaction. This means that the mouth ought not to be used for suction whilst using a pipette. I use a rubber bulb on the end of my pipettes, though probably a plug of cotton-wool in the end of the pipette is sufficient to prevent contamination in this way. Absolute asepsis must be observed. Air-borne organisms such as B. subtilis and B. mesentericus do not, so far as my experiments go to show, nullify the test in 48 hours, but S. pyogenes aureus and, to a lesser extent, S. epidermidis albus will, even in the presence of toluol, cause sufficient change in the serum with the subsequent passage through the dialyser of the breakdown products in 24 hours, thereby rendering the result of no value. This can be understood when the liquefying action of these organisms is remembered. The presence also of hæmoglobin in the serum renders that sample utterly useless for working the test.

In these cases the blood was taken with all the precautions adopted in doing a blood culture. It was collected by means of a syringe, transferred to a sterile tube, and centrifuged at once. The serum was then drawn off and used for the test without any delay. The serum ought to be clear and straw coloured. The opalescent serum obtained from a patient shortly after a heavy meal is not reliable, since it contains dialysable substances which give a positive result in the tube containing serum alone, so that the colour obtained in that with carcinoma tissue may also be due to the same cause.

In some cases at the beginning I put my blood into cold storage to allow the separation of serum to take place. The serum so treated gave negative results, whilst serum from the same patients if used fresh gave a strongly positive result. This ferment appears to be specific for cancer tissue. Serum giving a positive reaction with carcinoma tissue gave a negative one if placental tissue or egg albumin was used. It is specific for cancer tissue in general, but will work equally well in all varieties of carcinoma, as will be seen from the following list of cases. In the first place I did the test on 25 cases which were undoubtedly carcinoma, and then on 20 odd cases in which carcinoma could be excluded beyond reasonable doubt, and in two cases beyond all doubt, as they subsequently found their way to the post-mortem room. The test was positive in all 25 cases of carcinoma and negative in the controls. In one case, which section has proved to be a carcinoma of the larynx, a negative result was recorded, possibly because only 16 hours were given for incubation.

Twenty-five Cases of Carcinoma.

Position of growth.	Number of cases.	Confirmed by section.	Nature of growth.
Tongue	6	3	Squamous celled.
Breast	5	4	Spheroidal celled.
Stomach	3	1	Columnar celled.
Bowel	2	2	Squamous celled.
Cervix	3	1	"
Rectum	2	1	Spheroidal celled.
Testis	1	1	—
Urethra	1	1	—
Gall-bladder	1	0	—
Larynx	1	0	—
Totals	25	14	

As can be seen from this list 14 were confirmed by section, the nature of the growth in these cases all being recorded. Of the other cases the tongues were inoperable with secondary glands, the remaining breast was a cancer *en cuirasse*. The stomach cases were proved by clinical signs, test meals, and laparotomy. The carcinomas of the cervix were inoperable, a laparotomy being performed in one case. The rectum, the gall-bladder with jaundice, and the larynx with secondary glands necessitating tracheotomy were clinically undoubted cases of carcinoma. In all these the test was positive.

To place against these are the controls which gave negative results. So far I have not had a patient without carcinoma who has given a positive result. The controls include healthy patients and those with fractures, septic hands, tertiary syphilitic and tuberculous ulceration. There are some other doubtful cases which have not yet been proved by operation, post mortem, or subsequent history.

In addition there are a few cases which I thought worthy of individual notice. For permission to publish these I am indebted to the various members of the clinical staff at St. Bartholomew's Hospital.

CASE 1.—A man, aged 66, was admitted under Mr. H. J. Waring complaining of stoppage of the bowels. He gave a history of increasing difficulty in getting his bowels open. The calibre of his motions had got decidedly smaller. There was no history of passage of blood or mucus. For five days he had passed neither fæces nor flatus. A colostomy was performed, an annular stricture of his pelvic colon being found. This was freely movable, and on subsequent resection proved to be a columnar-celled carcinoma. *Test positive.*

CASE 2.—A woman, aged 52, was admitted under Dr. Herbert Williamson, complaining of abdominal pain. On examination a tumour was felt rising out of the pelvis to the level of the umbilicus. Per vaginam the pelvis was occupied by a fixed mass which could not be differentiated from the abdominal swelling. There was marked œdema of one lower extremity. The patient was thin and anæmic. The diagnosis was made of ovarian cyst (? malignant). A laparotomy was performed and the swelling removed. A section showed it to be a papilliferous ovarian cyst in a degenerated condition, but with no evidence of malignancy. Subsequent to the operation the œdema of the leg has completely disappeared. *Test negative.*

CASE 3.—A man, aged 32, admitted under Mr. C. Gordon Watson with a swollen left testicle. He gave a history of enlargement of the left testicle for two years, with a rapid increase in size for two months previous to admission. A hydrocele on tapping yielded clear serous fluid. The swelling was painless and testicular sensation was lost. Wassermann was negative. The testis was removed and section showed it to be a carcinoma. This patient has been seen since and now has a local recurrence. *Test positive.*

CASE 4.—A woman, aged 34, was admitted under Mr. W. McAdam Eccles complaining of a swelling of the umbilicus. Beyond slight induration around the navel nothing could be felt. A piece removed for section showed the structure of a simple adenoma with no evidence of malignancy. A laparotomy revealed a large mass in the stomach with a secondary swelling on the deep surface of the umbilicus, which section showed to be a columnar-celled carcinoma. *Test positive.*

Conclusions.—There is here, I think, sufficient evidence to show that the blood of persons suffering from carcinoma contains a substance absent in the blood of all others, and that this substance has a proteolytic action on the carcinoma tissue only. There are also several factors which point to its being of the nature of a ferment. If the serum from a patient is left to get stale it becomes inactive, but the addition of a trace of fresh human serum will activate it again. The reaction takes place best at 37° C. At room temperature the reaction does not occur, whilst heating the serum to

55° C. for five minutes inactivates it beyond recall. If, then, as is maintained, this substance is of a protective nature it would be natural to expect to find it present in larger quantities in patients who were in good general health. The results of these tests point strongly to such being the case. I have noticed throughout the whole series that a patient with a growth of the tongue or of the breast who is in good general condition will give an intensity of colouration in 12 hours which a patient in a low state of health would fail to give in 24.

The case of carcinoma of the larynx which gave a negative result only brings this test into line with others. No pathological test known to us is infallible. It is obvious that for practical use such a test must give a reaction in the early stages of the disease. Two of the tongue cases were early localised ulcers, one intestinal growth was small and easily removable, whilst one breast case was an early scirrhus. All these gave a markedly positive reaction in 24 hours.

The facts set forth here do, I think, point to the test being of some practical advantage as an aid in the diagnosis of carcinoma, especially in such sites as the stomach and bowels, thereby allowing early surgical interference. These results have all been obtained working in the pathological laboratory of St. Bartholomew's Hospital, where the kind suggestions of Dr. Mervyn H. Gordon and Mr. Mackenzie Wallis have always been at hand.

(Since writing the above, corroborative results have been published by some German observers. Gambaroff has gone a step further and maintains the possibility of differentiating between sarcoma and carcinoma by this method.)

[illegible] Abderhalden: Protective Ferments of the Animal

1913.

St. Bartholomew's Hospital, E.C.

A NOTE ON FIVE CASES OF POROCEPHALIASIS IN MAN FROM SOUTHERN NIGERIA.

By J. W. SCOTT MACFIE, M.A. CANTAB., M.B., CH.B. EDIN.;

AND

J. E. L. JOHNSTON, M.B., B.S. LOND., D.T.M. & H. CANTAB.

(*From the Medical Research Institute, Lagos.*)

UP to the time when Sambon published his important paper on Porocephaliasis in Man[1] apparently but few cases had been recorded. In a subsequent paper[2] the same author added to his list four other records. It has, however, been pointed out by Löhlein[3] that the infrequency of the occurrence of this condition which might be deduced from the small number of cases on record does not really exist. He records how Seiffert found porocephali in 7·8 per cent. of necropsies performed on coloured railway workers in the Cameroons, and how he himself, in a series of 118 post-mortem examinations on negroes, found 10 infected with these larvæ. Borden and Rodhain have recorded cases from the Congo also, so that it would appear that porocephaliasis is not very uncommon in the natives of West Africa.

The five cases briefly described below occurred in Southern Nigeria. The first occurred at Ibadan, a large native town situated about 120 miles north of Lagos, the second at Calabar, the third at Itu, and the fourth and fifth at Degama. We are indebted to Dr. J. D. Finlay for the interesting account of the first case, to Dr. J. Currie for the notes on the second, and to Dr. A. H. Wilson for the records of the remaining three.

CASE 1.—The patient was a native man, aged about 24, who was brought to the Ibadan Hospital on July 31st, 1913. He died immediately after his admission, and in consequence the history of his case is somewhat vague. He is said, however, to have been taken ill five days previously, and the symptoms observed were fever and vomiting. At the post-mortem examination, performed by Dr. Finlay, the body was found to be well nourished, rigor mortis was present, and the conjunctivæ were noticed to be deeply stained. All the organs and tissues were intensely jaundiced. Lungs: The right lung was normal; the left lung was contracted, and the pleural cavity was filled with venous blood and dark clot. Heart: The cardiac muscle was soft. No valvular lesion was present. Liver: The liver was greatly enlarged, bile-stained, and somewhat soft. On its surface, just below the peritoneal covering, were several porocephalus larvæ, and in the substance of the organ a few more were found. There were also some lying free on the under surface of the liver. The gall-bladder was filled with thick bile. On section the liver showed the condition known as "fatty nutmeg liver." Stomach: The stomach was contracted and thickened, and Dr. Finlay compared its appearance to that of an ox. Several round worms were present in the cavity. Duodenum: The duodenum was surrounded by a hard mass which blocked the common bile-duct. On microscopical examination this mass appeared to be of the nature of an adenocarcinoma. Intestines: The small intestine appeared to be normal, but the ascending colon was adherent to the hard mass referred to above. Kidneys: The kidneys were enlarged and stained a dark green colour. The larvæ on examination proved to be those of porocephalus armillatus. Three individuals measured 18 mm., 16 mm., and 15 mm. in length, and comprised 21, 19, and 17 rings respectively. The rings in the middle of the body were 1 mm. apart, and stood out prominently. The breadth of all three was 3 mm. The cephalo-thorax appeared to be identical with that figured by Sambon for this species.

CASE 2.—The second case was that of an old Hausa woman who was found dead by the police at Calabar in September, 1913. Dr. Currie, who was called upon to make a necropsy, determined that death had been due to extensive and long-standing dysentery. In the course of his examination he found a single larva of porocephalus armillatus encysted in the edge of the liver. No more of the parasites were found in other situations.

CASE 3.—The patient, whose age was about 40, was a native of Southern Nigeria, and an inmate of Itu prison. He was a big, well-developed man, who did not appear to be seriously ill. Only a very indefinite account of his illness could be obtained. He first complained of being sick on August 5th, 1910, stating that he was constipated and had vague pains about the abdomen. At the same time he noticed that his legs began to swell. He was first seen by Dr. Wilson on August 11th, and was found to have œdema of his legs, scrotum, and abdominal walls. The abdomen was distended, and contained free fluid. There was no enlargement of the liver and spleen, the urine was normal, and the heart and lungs appeared to be healthy. He was not very weak, and could get about fairly well. The patient was removed to Ikot Ekpene. On August 15th, when he was next seen, there was an increase of the dropsy; dyspnœa was present, with a cough and frothy expectoration. On examination of the lungs moist crepitations were heard, and there was slight impairment of the resonance, especially on the right side. The patient died on August 18th. A post-mortem examination was made four hours after death. The body was well nourished. There was œdema of the legs and scrotum and slight general anasarca. On opening the abdomen a large amount of clear ascitic fluid escaped. There was no sign of peritonitis. The spleen was normal in size and appearance. The kidneys seemed to be a little congested. The liver was slightly enlarged, but in general appearance looked healthy. Scattered over its surface and in each lobe were what looked at first glance like cicatricial patches, but these proved on closer examination to be the encysted larvæ of porocephalus armillatus. Altogether there were 10 or 12 to be seen. They were all situated superficially, and were of a whitish colour. They were about half an inch long, closely coiled up, and surrounded by a thin membrane. Exactly similar larvæ were found in the lungs, but they were not so numerous as in the liver, and one of them lay an inch from the surface. The lungs were generally congested, and contained much frothy fluid. The bronchial tubes showed signs of congestion. There was no increase of fluid in the pleural cavities, a few slight adhesions were present, but there were no signs of recent pleurisy. The heart was normal. The pericardium contained an excess of fluid. The intestines were normal in appearance, and no larvæ were seen on their surfaces. The mesentery and the glands were not especially examined.

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[1] Journal of Tropical Medicine and Hygiene, July 15th, 1910.

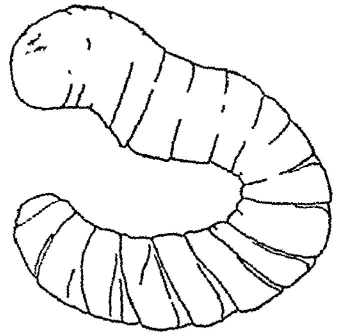
[2] Ibid., April 1st, 1913.

[3] Beiheft zu Archiv für Schiffs- und Tropen Hygiene, 1912, vol. xvi., No. 9.

CASE 4.—The patient, a male native, aged about 50, was a prisoner from the Ahoada district of Southern Nigeria. In April, 1913, he was admitted to hospital at Degama for observation, but his symptoms appear to have been somewhat vague and indefinite, and in the same month he was transferred to Bonny. In August he was re-transferred to Degama. On re-admission it was noted that he was in "an emaciated and generally feeble condition," but no definite disease was diagnosed to account for his condition. His asthenia was progressive, and he could only walk feebly for a few yards at a time. He was discharged on Sept. 5th, but remained in the prison awaiting transport to his own country. About the same date it was observed that his abdomen was somewhat swollen, and on examination the presence of free fluid was detected. Two days later the feet and legs became œdematous, and asthenia became extreme. On the 11th dyspnœa and cough supervened, and the lungs were found to be congested. There was no fever and the urine was normal. Two days later the patient died. At the post-mortem examination, which was made by Dr. Wilson on the same day, the body was found to be emaciated and the legs slightly œdematous. Thorax: The heart appeared to be normal. There were a few old adhesions on both sides in the pleural cavities. Both lungs were much congested, and on the surfaces ecchymoses were found. On section a large amount of blood and frothy fluid escaped, the condition being one of general congestion and œdema. The lungs were searched for larvæ, but none was found. Abdomen: On opening the abdomen a large amount of limpid fluid escaped. There was no peritonitis. The liver was normal in colour and appeared to be below the usual size, and was tough in consistency. On its surface was a number of cicatricial patches. On further examination a nodule about ½ inch in diameter was found on the surface of the right lobe. This proved to be an encysted larva enclosed in a very tough and fibrous capsule. On thoroughly searching the liver four similar encysted larvæ were found. The mesentery was searched for larvæ, but with negative result. The spleen, kidneys, pancreas, and stomach and intestines were all normal.

CASE 5.—The patient, a Kroo boy, aged about 17 years, was admitted to Degama Hospital on July 7th with ulceration of the cornea of the right eye. He made no further complaint, and the examination of his physical condition was negative. He was, however, reported to have been losing strength recently and to have been performing his work in a languid fashion. Whilst in hospital his condition was one of gradual and progressive asthenia, and he died on July 14th. Two weeks before his death his gait became staggering, his knee reflex was lost, and he complained of some vague pains about the legs; but with the exception of rapid action of his heart no local signs or symptoms could be detected, and no evidence of cardiac incompetency was found. At the post-mortem examination the body was found to be fairly well nourished and presented no abnormal appearances. Thorax: The pericardium was adherent to the heart, the right ventricle thin and dilated, the left ventricle normal, and the valves normal. The lungs were very small but appeared to be healthy; no porocephalus larvæ were found although careful search was made for them. Old pleuritic adhesions were present on both sides. Abdomen: The abdominal cavity contained a little free peritoneal fluid, but there were no signs of peritonitis. The liver was slightly enlarged, there was general hepatitis, and the organ presented a nutmeg appearance. On the surface two patches with a superficial resemblance to cicatrices were found, which when cut into were seen to be encysted larvæ of porocephalus. On making successive sections through the liver about ten of these larvæ were found. None was more than a half to three-quarters of an inch beneath the surface. One larva was found in the mesentery. The kidneys, pancreas, stomach, and intestines were all normal.

The parasites from the last case had unfortunately been considerably damaged in dissection, and only one complete individual could be pieced together. This specimen (see figure) consisted of 20 rings, and measured 17 mm. in length and 3 mm. in breadth. An unopened cyst from the same case measured 9 mm. by 6 mm. by 3 mm. The larvæ differed somewhat from those of the other cases. They were smaller, and the rings, which were broad and bandlike, were set more closely together. The heads also appeared to be more bulbous. Such differences in appearance may have been due to the larvæ having been in an immature condition.



Porocephalus from Case 5, magnified. Actual length, 17 mm.

Very various opinions are held with regard to the effects of porocephalus larvæ on their human host. Löhlein seems to believe that they are harmless, but Chalmers states: "The presence of the parasite in the human body sets up inflammation of the lungs and peritoneum, but it does not appear to irritate the alimentary canal or liver."

In the first two cases recorded above sufficient evidence of disease was detected at the necropsies to account for death without attributing any action to the presence of the larvæ. In the second case only a single porocephalus larva was found in the body, but there was evidence of severe and chronic dysentery, and in the first death would appear to have been due to the presence of a tumour surrounding the duodenum and blocking the common bile duct, and the few symptoms noted, and the pathological appearances observed, were probably due to this cause. The possibility that irritation caused by wandering larvæ might have played some part in the production of the tumour should not, however, be forgotten, although no evidence of any such predisposing cause was detected at the necropsy. The three cases recorded by Dr. Wilson (Nos. 3, 4, and 5), on the other hand, suggest that the presence of porocephalus larvæ may have serious pathological significance. No definite cause of death was discovered at the post-mortem examinations, and Dr. Wilson himself considered that the fatal termination in each case had at any rate been accelerated by the presence of the larvæ. These three cases presented a peculiar clinical picture, and the pathological conditions found after death were somewhat similar. The chief symptoms were progressive weakness, œdema, and dyspnœa, without any very definite signs to account for the physical conditions. The patient in Case 5 developed some interesting nervous symptoms shortly before death. A larva was found in the mesentery, a fact which suggests the possibility that wandering larvæ may have been responsible for some of the symptoms. It is interesting to note that Waldow found small cysts containing calcified porocephali in the liver, omentum, mesentery, and pleura of a native who died in the Cameroons with symptoms of meningitis.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE RESULT OF CEREBRAL DECOMPRESSION IN A CASE OF EPILEPSY.

By Allan Watson, M.B., Ch.B., D.P.H.,
D.T.M. & Hy. Edin.

The results of surgical treatment in cases of idiopathic epilepsy have been, on the whole, so discouraging that the following notes on a case which was markedly benefited by Kocher's decompression operation may be of interest.

The patient, a boy aged 16 years, was sent to the East Suffolk Hospital from the Ipswich Mental Hospital on Sept. 26th, 1912. He suffered from frequent epileptic fits, and was certified as being a person of unsound mind. He was an illegitimate child, and was born prematurely at about the end of the eighth month. At the time of his birth his father was 20 and his mother 19 years of age. When the patient was about 3 months old he suffered from severe "convulsions," but he was otherwise healthy until he was in his eleventh year. He is said to have had a fall on his head when about 5 years of age, but he was not unconscious after the accident, and was apparently none the worse for it. He commenced having epileptic fits when he was 10½ years old, and shortly afterwards some paresis of the right hand and arm was observed. The fits at first recurred about once every two days. When he was about 11 years old he injured his left eye and had to have it enucleated. Towards the end of November, 1911, the fits became much more severe and increased greatly in frequency, recurring 10 or 12 times a day. About this time also he began to show signs of insanity. He was admitted to the Ipswich Mental Hospital on Dec. 4th, 1911, showing the following signs of insanity, as stated on his certificate: "He talked of committing suicide and had asked for a rope and a razor to do so. He had fits of unprovoked laughter, and at times talked incoherently. He had no recollection of dates. He had occasional fits of violence and excitement." While he was an inmate of the Mental Hospital he had an average of about 10 fits daily.

Neither of the patient's parents suffered from epilepsy, insanity, alcoholism, syphilis, or tuberculosis. A maternal uncle suffered from general paralysis of the insane, and a paternal uncle suffered from melancholia. His father also had had a great-uncle who was insane for many years.

The patient was a fairly well-developed, intelligent-looking lad. His features were small and his forehead was narrow. His complexion was fair. There were no marks of injuries about the head, but the skull was distinctly flattened over the left parietal region. The following cranial measurements were noted: (1) Circumference taken just above level of superciliary ridges, 21¾ inches; (2) distance from nasion to inion across top of skull, 15 inches; (3) distance from right to left suprameatal points across top of skull, 12 inches. The colour of the right eye was blue. The pupil was of medium size and reacted sluggishly to light and accommodation. The knee-jerks were present and were fairly active. He seldom used his right hand and arm, which were less well developed than the left. The right elbow- and wrist-joints were usually held flexed, but he could extend both voluntarily. He answered questions promptly as a rule, but in a rather listless manner. His memory was fairly good for recent events, but not good for remote events. At times he was rather incoherent. He took very little interest in his surroundings. There was no evidence of congenital syphilis or of tuberculosis.

The patient was kept under observation for a week after his admission to hospital. He had daily from 12 to 15 fits of varying severity. There was never an aura of any description. Occasionally the fits commenced with a cry which was sometimes a yell, but more often a loud groan. The tonic spasm nearly always seemed to commence in both arms simultaneously; it usually, but not invariably, became general. The eye generally turned inwards and upwards, but sometimes outwards and upwards. The clonic spasm usually began on the right side of the body, but the muscles first affected varied; occasionally it began on the left side, and on a few occasions both sides seemed to be affected simultaneously. The clonic spasm usually became general. He was invariably unconscious during the fits for several seconds at least. Occasionally he was unconscious for a few minutes after a fit, but more generally he was conscious, though dazed and unable to speak for a little. He frequently passed urine or fæces involuntarily during or immediately after the fits.

An operation was performed on Oct. 4th, 1912. The patient was trephined over the left Rolandic area, and the opening was enlarged with gouge forceps until it measured about 3 by 2 inches. The dura mater was reflected, but no abnormality was noted save slight flattening of the cerebral convolutions. The brain surface was covered with Cargile membrane and the wound was closed in the usual manner. The patient remained unconscious for about 15 hours after the operation. When he recovered consciousness it was noticed that his right arm and leg were paralysed. On Oct. 7th he had one rather severe fit. The tonic spasm began in the right arm; the clonic spasm was general. Some hours later it was noted that he could move his right arm and leg voluntarily. By the 12th he had regained complete control over both limbs. He could use his right arm very much better than he could before the operation, and it was no longer held with the wrist- and elbow-joints flexed. His mental condition improved very rapidly and remarkably; he became bright and cheerful, and took an intelligent interest in everything. He had one very slight fit on the 23rd and another on the 24th. On

Nov. 5th he was discharged. He was apparently quite sane and the paresis of the right arm had completely disappeared.

A report on the patient received six months after the operation stated that he had had 12 slight fits since his discharge from hospital, but was quite sane and in excellent health.

I am indebted to Dr. Herbert H. Brown, honorary surgeon to the East Suffolk Hospital, for permission to publish the notes on the case.

Evanton, N.B.

TORSION OF THE PEDICLE OF AN OVARIAN CYST ON EACH SIDE,

WITH ADHESION OF AN INFLAMED APPENDIX VERMIFORMIS TO THE CYST ON THE LEFT SIDE.

BY CECIL MEREDYTH-JONES, M.B., B.S. LOND.,
HOUSE SURGEON AT WESTMINSTER HOSPITAL.

A WOMAN, aged 50, was admitted to Westminster Hospital on Dec. 30th, 1912, under the care of Mr. W. G. Spencer, complaining of violent pain in the abdomen most marked in the *right* iliac fossa and hypogastrium. She had noted the abdomen gradually enlarging for more than a year, and at times had felt "vague movements," but had not consulted a medical man. Her menstrual periods had become irregular for two years, but she had had some blood-stained discharges at intervals of from three to six months. She had first felt pain after a slight strain some two months before; pain had recurred at intervals, but was relieved by lying down. The acute attack of pain commenced on Dec. 27th, since when she had had no motion, and felt nausea but had not vomited.

On admission the patient was in distress with pain and great thirst. She had a dry, furred tongue, the pulse-rate was 130, and the temperature was 99·6° F. The abdomen was not markedly distended; there were no coils of intestines to be seen. A lobulated mass could be felt in the hypogastrium extending towards the *right* iliac region, which was tense and could be swayed a little, but it did not fluctuate; except over this the abdomen was resonant to percussion. Per rectum the pelvis could be felt to be occupied by a semi-fluctuating mass which pitted on pressure; the uterus was pushed forwards and downwards.

Mr. Spencer diagnosed an ovarian cyst with a twisted pedicle; the collection in the pelvis was supposed to be peritoneal fluid shut off from above by adhesions. A Pfannenstiel's incision—i.e., a curved incision through the skin and anterior sheath of the recti with a separation and retraction of the muscles—was made midway between the umbilicus and pubes. The bladder presented in the wound, for although it had been emptied it had been drawn up by the ovarian cyst, to which it had previously become adherent; also some intestinal adhesions were separated. Then a cyst of the size of a large cocoa-nut was found which had arisen from the *left* ovary, but its pedicle having undergone axial rotation the cyst had come to occupy the *right* of th [illegible] and *right* iliac fossa, while the [illegible] rotated, so that its *left* cornu looked backwards and its *right* forwards. To this cyst the appendix was densely adherent, the appendix itself being excessively long, thickened, and kinked. It was removed and the stump buried in the cæcum. Then the cyst was brought out; it was blue from venous congestion but not yet gangrenous; its long pedicle had been twisted through about a circle, and its blood-vessels were thrombosed. On further examination after removal the cyst proved to be a multilocular ovarian cyst, some of the cysts containing putty-like remains of blood-clot. After drawing up the uterus and separating more adhesions the mass in the pelvis was found to be the remains of a right-sided multilocular ovarian cyst, the pedicle of which had become twisted, the cyst wall gangrenous and ruptured, but the contents had been confined to the pelvis by the adhesions above. After removing it the pelvis and rest of the lower part of the abdomen were sponged dry, a glass tube was passed into the pelvis, and the abdominal wall sutured in layers around it. The patient made an uninterrupted recovery and was able to leave for a convalescent home within a month.

The patient appears to have developed a multilocular cyst from each ovary about the size of a large cocoa-nut. During this time an exceedingly long appendix became kinked and inflamed, which led to adhesions to the cyst on the *left* side, to slow twisting of the pedicle, with the formation of adhesions to the bladder and intestines. The slow development of this condition, with the twisting of the fundus of the uterus, led to the cyst on the *right* side being crammed down into the pelvis, in the course of which its pedicle became twisted, the sac wall gangrenous, and rupture followed. It would appear that the acute symptoms were produced by the rupture of the *right* ovarian cyst in the pelvis. The complicated nature of the case had to be unravelled in the course of the operation.

I am indebted to Mr. Spencer for permission to publish the notes of the above case.

Westminster Hospital.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Pyelo-Radiography.

A MEETING of this section was held on Nov. 11th, Mr. G. H. MAKINS, the President, being in the chair.

A discussion took place on Mr. F. S. KIDD'S paper published in THE LANCET of Oct. 25th.

Mr. S. G. SCOTT spoke of the details of the radiographic examination in such cases. He said that the couch should be raised on wooden supports, as the usual couch used in radiography was not high enough. The surface should be of polished wood with a loose covering of thick felt, so that the patient could be slipped freely along it without muscular effort on his part. At the time of the examination he should be slipped to the foot of the couch, his legs raised and thighs supported. A suitable catheter was one which was divided into sections, opaque areas of one inch alternating with transparent areas of a quarter of an inch. After the collargol had been injected the patient should be put back into his original position, and the plate so arranged that the last rib occupied its centre. Each kidney should be skiagraphed separately. Compression from above aided the examination. The pelvis of the kidney should be kept full during the exposure, and the tube through which the collargol ran should not be clamped, because this led to leakage round the catheter. The exposure occupied from 15–20 seconds, and then the collargol should immediately be run out. He did not think it advisable to watch the pelvis filling by the fluorescent screen. The whole process should last a few minutes only.

Mr. J. W. THOMSON WALKER said that the procedure required the coöperation of the surgeon with the radiographer. The patient should remain in bed for a day or two afterwards. It could not be denied that there was a certain element of danger, so that it should not be employed except in those cases where the information which it gave was important enough to justify its use. One class of case to which it was applicable was where hydronephrosis was diagnosed, and by pyelography none was seen. In this way an operation was avoided. In another class were cases where renal symptoms were present, but the kidney was not palpable. A third consisted of cases of renal tumour, and a fourth those in which radiography showed a shadow of doubtful origin, and in which by pyelography the relation of the calyces of the kidney to the shadow was made clear. One case had been described where the renal pelvis had been ruptured. It was not justifiable to use force in introducing the fluid, and the inflow should be stopped if pain was induced. This, however, was not always a reliable guide. No anæsthetic should be employed. If the fluid did not run in with a continuous flow another warning of danger was afforded. He had lately used solutions of from 10 to 15 per cent., or even 20 per cent., to ensure a good shadow. In one case he had found œdema of the fat around the kidney, which he ascribed to this method of examination.

Mr. A. RALPH THOMPSON said that he had found great assistance from pyelography in the planning of operations upon kidneys, especially when they were out of place, and al [illegible]
relation of the kidney to [illegible]
He thought that a knowl[illegible]
was important, and should if possible be standardised.

Mr. A. E. JOHNSON had found the method of use in cases of unilateral renal pain of unknown origin, in doubtful cases of hydronephrosis and pyonephrosis, in congenital defects of the urinary system, in abdominal tumours, and in the interpretation of X ray shadows. It was of great value in demonstrating early dilatation of the pelvis. He recommended that the tip of the catheter should be identified by the screen before running in collargol, and advised against compression from above. In his opinion the dorsal position was the best. In movable kidneys he had sometimes obtained advantage by examination of the patient in the standing posture.

Mr. KIDD replied.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Oct. 24th, Dr. LEONARD G. GUTHRIE, the President, being in the chair.

Dr. C. E. ZUNDEL showed two cases of *Infantilism.*

CASE 1.—The patient was a girl, aged 13 years, the eldest of three children, the others being healthy. She was very small at birth, and "does not seem to have grown since she was five years old." The patient was 3 ft. 6 in. in height, and her weight was 2 st. 10½ lb. The face was intelligent; the skin was dry; the hair was fair and rather coarse. There was no suggestion of appearance of puberty. Urine: Acid, pale, specific gravity 1004, contained 1/20 albumin, and a few granular and fatty casts were found in the centrifuged specimen. No polydipsia; occasional nocturnal enuresis.

CASE 2.—The patient was a boy aged 13 years. Since the age of 2½ years he had had polydipsia. No other illness before or since, but his excessive thirst had been constant. His father and one brother had also suffered from diabetes insipidus. Condition: Thin, childish, weight 2 st. 1½ lb., height 3 ft. 6 in.; thymus, thyroid, and pituitary gland apparently normal. Drank on the average 14 pints per diem. Disliked sweet things; appetite poor. Urine: Specific gravity 1001, no albumin, no casts, urea 0·5 per cent. Wassermann reaction negative.

Dr. E. A. COCKAYNE showed a case of Constriction of the Arm by Amniotic Bands.

The patient, a girl aged 3½ years, showed a narrow fibrous band completely encircling the right upper arm, causing slight constriction, and another which deeply constricted the forearm just above the wrist; in flexion—the intra-uterine position—the two scars were at the same level. The scar tissue was adherent to the deeper structures and the bone felt grooved, but a skiagram showed that it was not involved. The right arm and hand were well developed and larger than the left, showing that there had been no pressure on the arteries.

Dr. COCKAYNE also showed a girl, aged 1 year and 4 months, with Hemiplegia and a very extensive Nævus.

The birth was easy, but the child was said to have been "born in convulsions." The mother attributed the condition to her having seen a cripple with a very large birthmark when she was three months pregnant. The mother noticed the nævus at birth, but was not sure whether the hemiplegia was present then or came on later. It was first noticed after the child had had a severe left-sided fit at the age of six weeks. She had had similar fits at intervals up to the age of one year. There was complete left hemiplegia with spasticity of the arm and leg, and the left side, including the face, was noticeably smaller than the right. There was very extensive port-wine staining of the skin of the scalp, face, arms, legs, and part of the trunk. It was fairly symmetrical and followed a posterior root distribution. Wassermann's reaction negative.

Dr. J. PORTER PARKINSON showed a boy, aged 5 years, with Rheumatoid Arthritis.

In July, on admission to hospital, the patient was pale and thin, with wasted muscles. The knees, ankles, wrists, and elbows were swollen and spindle-shaped, with soft, pulpy swelling. Enlarged glands could be felt in the axillæ and groins, but the spleen could not be felt and showed no evidence of enlargement. Teeth good; no evidence of gastro-intestinal derangement. Weight 2 st. 1 lb. Wassermann and von Pirquet's reactions normal. Temperature occasionally up to 100° F. Treatment consisted of massage, &c., a course of arsenic internally, and, later, rectal injections of polyvalent antistreptococcus serum, but without effect. The patient left the hospital at the end of July, and on readmission in October, in addition to the conditions described above, there were spindle-shaped enlargements of all the joints of the fingers and slightly of the metacarpo-phalangeal joints of both hands, and the left hip-joint had become fixed in partial flexion.

Dr. T. R. WHIPHAM showed three cases of Under-development.

CASE 1.—A rickety boy, aged 2 years and 3 months, who was very undersized, being only 2 ft. high and weighing only 11 lb. The anterior fontanelle was open and the patient had only seven teeth. [illegible]

CASE 2.—A boy, aged [illegible]
well proportioned and in [illegible]
9 in.; weight 1 st. 8½ lb. [illegible] the skin and subcutaneous
suffered from tuberculosis of the skin and subcutaneous tissues. He had been treated with thyroid extract and more recently with polyglandin, with some improvement.

CASE 3.—A girl, aged 18 years, showing signs of hyperthyroidism. She had the development of a girl aged 10, her height being 4 ft. 1½ in. and her weight 4 st. 10½ lb. There was an absence of mammary development, also of both pubic and axillary hair, and menstruation had not occurred. The girl had attended school, but was not quite up to the normal standard and her memory was not good.

Dr. WHIPHAM also showed a girl aged 6 years with Enlargement of the Liver and Spleen associated with Jaundice.

The patient was born jaundiced, the colour being "green-yellow," and the condition lasted for six weeks. Since then no jaundice had been noticed until February of this year. The onset was sudden, and when the patient was first seen in May she was deeply jaundiced, being of an olive-green colour all over. The liver was greatly enlarged, extending to the umbilicus, and the spleen was also of considerable size, extending down to the same level. The blood count at this time showed red corpuscles, 4,824,000 per c.mm.; white cells, 15,200 per c.mm.; polymorphonuclears, 39 per cent.; lymphocytes, small, 53 per cent.; lymphocytes, large, 6 per cent.; and eosinophiles, 2 per cent. No myelocytes or mast cells were seen. The motions were brown or yellow in colour, not acholic, but the urine was deeply coloured and contained bile-pigment. Wassermann reaction negative. After persisting for three months the jaundice had been gradually getting less during the last two months. The liver edge was now 1½ in. above the umbilicus, but the spleen had slightly increased in size. A recent count showed a change in the blood picture: Red corpuscles, 2,360,000 per c.mm; white cells, 38,000 per c.mm.; polymorphonuclears, 50 per cent.; lymphocytes, small, 28 per cent.; lymphocytes, large, 4·7 per cent.; myelocytes, 13·3 per cent.; eosinophiles, 3·7 per cent; and mast cells, 2·2 per cent. Nucleated red corpuscles were present and a few of the myelocytes contained eosinophile granules. Hydropic degeneration of the nucleus was frequent, especially in the myelocytes and the large lymphocytes. The urine was still pigmented and contained bilirubin, but no urobilin.

Dr. LEONARD GUTHRIE showed a case of Congenital Insufficiency of Ocular and Facial Movements in a boy aged 4 years.

At birth imperfect closure of the eyes was noticed and also that the face was devoid of expression. The whole face was motionless as far as the mouth; the skin of the face was smooth and not tightly stretched. The eyes could not be completely closed, the eyeballs were in mid-position, and the only ocular movement was convergence downwards and inwards. The pupils were equal and reacted to light, less so to accommodation. Laughter was only represented by guttural grunts. The orbicularis oris was not paralysed, this being probably due to association of its action with that of the tongue. Electrical reactions could not be obtained in any of the facial muscles except the orbicularis oris. The condition was regarded as an unusual form of myopathy affecting muscles supplied by the third and the seventh nerves.

Dr. F. LANGMEAD showed a case of Cretinism.

The appearance of the patient, a female child aged 5 months, was characteristic. The child was shown because she exhibited two features which are characteristic of Mongolian imbecility rather than of cretinism—(1) markedly incurved little fingers and (2) congenital morbus cordis.

Dr. E. BELLINGHAM SMITH showed a case of (?) Cerebellar Encephalitis.

The patient, a boy aged 8 years, was admitted as a case of cerebro-spinal meningitis. On July 25th there had been a sudden onset, with headache, vomiting, and aching pains On admission on the 26th the boy was drowsy, with flushed face, rigidity of the neck muscles, and some retraction of the head. The abdomen was retracted, the reflexes were exaggerated, the plantar reflexes extensor, and Kernig's sign and ankle clonus were well marked. Temperature, 103° F. Lumbar puncture revealed a turbid fluid. not under pressure containing 0 075 per cent. albumin; globulin a small precipitate. glucose present, also many polynuclear cells and large lymphocytes No organisms seen; cultures sterile On August 8th commencing optic neuritis was noticed which became more marked. On Sept. 4th fluid from a second lumbar puncture was also sterile. 9th: No paresis of the limbs but well-marked ataxia, the incoördination being equally present on both sides. 15th: The patient was put on iodide of potassium, since when symptoms have rapidly cleared up and the child seems now practically well.

Dr. BELLINGHAM SMITH also showed a case of Infantile Paralysis of early onset and with unusual deformities.

The disease came on when the child was only two months old. The patient was quite unable to sit up and usually lay with both knees flexed and the hips abducted so that the thighs were at right angles to the pelvis. The left leg could be readily brought down into a direct line with the trunk, but the right was incapable of complete inward rotation and adduction.

Dr. PORTER PARKINSON showed a specimen of Neoplasmoid of the Sigmoid Flexure from a boy aged 5 years.

When admitted to hospital on July 17th there was a distinct, rounded, movable, tender lump of the size of an orange in the right iliac fossa. On Sept 29th, after several motions containing large quantities of blood, the child died. At the necropsy the lump was found to be a distended sigmoid colon lying in the right iliac fossa and adherent to the adjacent small intestine. The walls of the sigmoid were much thickened with hard, whitish growth, the inner surface being ulcerated. A microscopical section showed somewhat large, rounded, and tailed cells packed in the meshes of fibrous tissue alveoli.

In the opinion of Dr. Porter Parkinson and of others the growth was a carcinoma.

Dr. J. D. ROLLESTON showed a specimen of Extensive Diphtheria of Trachea and Bronchi from a girl aged 5 years.

The specimen showed membrane closely adherent to the posterior surface of the epiglottis and interior of the larynx, from the lower end of which a thick continuous tubular cast extended to the bifurcation of the trachea and passed into each of the bronchi.

Dr. F. G. CROOKSHANK showed a skiagram of a case of Anomalous Development.

The lower limbs were small, immobile, and presented webbing between the thigh and the calf. At the post-mortem examination it was found that the spinal column terminated at the twelfth dorsal vertebra in a bony mass of small size The spinal canal was completely closed. There were 12 pairs of dorsal nerves, but no lumbar nerves at all, and the legs were seemingly not innervated. A very rudimentary sacrum and coccyx were present. For several months before and after the date of the child's conception the mother had been in close daily association with a little boy, paralysed as the result of Pott's disease, who died when the mother was four months pregnant.

Mr. DUNCAN C. LL. FITZWILLIAMS showed a specimen of Extrapleural Lipoma from a child aged 6 years.

The case had been shown at the meeting of the Section in January as a case of lymphangioma, resembling hernia of the lung. The swelling gradually became larger, and in September the lump was exposed and removed. It proved to be a pure lipoma with very little fibrous tissue. The portion in the neck communicated by a narrow isthmus growing down behind the subclavian artery with a much larger portion which lay within the thorax outside the parietal pleura. The tumour, which was very soft, was removed whole.

SECTION OF OPHTHALMOLOGY.

Exhibition of Cases.—The late Mr. E. Nettleship.—Disease in the Eyes of Animals.—Obstruction of the Lacrymal Duct and its Treatment.

A MEETING of this section was held on Nov. 5th, Sir ANDERSON CRITCHETT, the President, being in the chair.

Mr. SYDNEY STEPHENSON showed a case of Brawny Scleritis at an early stage, which Mr. E. TREACHER COLLINS thought was a tenonitis. He had had a case of this condition which persisted for a long time, as had this one.—Mr. W. T. HOLMES SPICER reminded the meeting of a case with a similar appearance which he showed at a former meeting under the title "solid œdema of the conjunctiva." That, however, had a syphilitic origin, which apparently was not the case here.—Dr. D. LEIGHTON DAVIES spoke of a case under his care with a similar appearance. A small portion examined showed round cells without a stroma. He enucleated, and on bisecting the globe found a darkly pigmented sarcoma. He suggested that the present case was sarcoma.

Mr. J. L. BARLEY showed a case of Keratitis Punctata.

Mr. C. KILLICK exhibited a case of Persistent Hyaloid Artery.

Dr. A. S. COBBLEDICK showed an example of Ectasia of the Cornea four years after a perforating wound; also a case of Rupture of the Choroid in a Myope following Labour. The latter case he regarded as unique.

Mr. N. BISHOP HARMAN showed a patient with New Growth causing detachment.

Mr. GEORGE COATS exhibited a Dog with Keratitis.

Mr. E. CHATTERTON showed a case of Tuberculous Iritis in order to elicit opinions as to the value of tuberculin injections for the condition.—Mr. S. H. BROWNING said he had treated a number of such cases with tuberculin, and he knew of no case in which hæmorrhage had followed its use. The French believed the hæmorrhages which occurred were of tuberculous origin.—Mr. M. S. MAYOU stated that he had treated numerous cases of tuberculous iritis with tuberculin, and had not seen hæmorrhages during the treatment; there was absorption of the nodules, and subsidence of the iritis. It was the most successful treatment. He commenced with 1/10,000th, and worked up to 1/250th mgm. T.R. Where there was lung trouble also, a very small dose caused severe reaction, and it should be given very cautiously.—Mr. A. MACNAB said he had recently treated two cases in this way, and both did very well.—Mr. ARNOLD LAWSON gave confirmatory experience.

Mr. J. HERBERT PARSONS showed a Central Unilateral Retinitis.

Dr. A. HUGH THOMPSON exhibited a case of Choroiditis starting as a ring round the macula.

The PRESIDENT made sympathetic reference to the death of Mr. Edward Nettleship, which was a loss not only to the society but to the world of ophthalmology. Though evidently in failing health, his mental vigour was such that he took part in the discussions at the recent Congress of Medicine. The speaker's father and Mr. Bowman had the highest opinion of Mr. Nettleship's pathological knowledge in the early days, and that opinion had been amply justified since. A resolution of condolence with his relatives was carried by members upstanding.

Mr. G. COATS read a paper in which he reported some examples of Disease in the Animal Eye. He described a form of keratitis characterised by the presence of a superficial vascular opacity of the cornea. The disease was of long duration and had no evident association with distemper or other general illness. It sometimes occurred in more than one member of the same litter. Pathologically, it consisted in a replacement of the superficial layers of the cornea by a layer of inflammatory tissue. The human condition which it most nearly resembled was trachomatous pannus, but it differed from that disease in the absence of follicles, and of scarring or distortion of the lid, as well as by its not being confined to the upper part of the cornea. A case of retinal degeneration following distemper was described. The retinal changes were peculiar in that it was the bipolar cells of the inner nuclear layer which were chiefly affected, the ganglion cells showing only slight, and probably secondary, changes, the outer layers being mostly intact. In places, however, the rods and cones and their nuclei were also atrophied. These changes were probably to be explained by the presence of a circulating toxin with a specific affinity for the retinal bipolar cells, analogous to the specific action of nicotine on the ganglion cells. A description of some cases of choroido-retinal degeneration and inflammation was prefaced by a discussion of the pathological points of distinction between these two conditions. A profound atrophy of the retina without adhesion to the choroid must be a degeneration. In old standing cases of degeneration, however, an adhesion between the two membranes occurred, but it was usually not very intimate; the line of demarcation remained well defined, and the elastic lamina of the choroid was intact. The occurrence of cicatricial tissue was certain proof of precedent inflammation, and where it was present the adhesion was dense and the layers of the choroid and retina were distorted and disorganised, instead of being merely atrophic. A degeneration was often fairly uniform over a considerable area; an inflammation was patchy. Examples of choroidal-retinal degeneration in a dog, racoon, wolf, wild sheep, ferret, wallaby, and hyæna were shown. The racoon appeared to be an albino, yet a little pigment was present in the epithelium of the ciliary body and anterior part of the choroid, showing that pure albinism could not be diagnosed without a microscopical examination. The racoon also showed nystagmus—a condition occasionally described in the lower animals. A case of choroiditis, cyclitis, and keratitis in a bear, and one of anterior choroiditis in a peccary were also illustrated. Two instances of canine irido-cyclitis were reported. The first was of plastic type, and was peculiar only in its occurrence in the dog, in which animal the condition appeared to be rare; the second, also in a dog, was characterised by an enormous thickening of the iris, due to infiltration with mononuclear cells of a special type. Posterior synechiæ and other features of plastic iritis were absent. The cause of the irido-cyclitis was obscure in both instances.—The paper was discussed by Mr. TREACHER COLLINS, Mr. J. B. LAWFORD, Mr. SEWELL (veterinary surgeon), Dr. RAYNER D. BATTEN, Mr. BISHOP HARMAN, Mr. HOLMES SPICER, Mr. W. LANG, Mr. R. R. CRUISE, and the PRESIDENT, and Mr. COATS replied.

Mr. CHARLES WRAY read a paper on Obstruction of the Lacrymal Duct and its Treatment. He believed it was a mistake to remove the sac when syringing failed without attempting to cure by means of styles, or styles and probing combined, and thought it was not unlikely that ectropion and its sequelæ might follow excision. Too much was heard of the satisfactory and immediate results, but too little of bad ones and of recurrences. After referring to the danger of adrenalin and chloroform when used at the same time, stress was laid on Harrison Butler's operation. According to the speaker, all cases of epiphora should be rhinoscoped, though he admitted he had received little or no help from the rhinologist. Mr. Wray treated his cases in the following way. He injected cocaine by Mellen's method, and instilled a drop into the conjunctival sac. A Bowman's probe was then passed into the sac and the point pushed forward under the palpebral ligament. He then cut down on the guide, taking care to note the click of the knife on the probe. So far the procedure was quite painless. He then placed crystals of novocaine in the sac and had recourse to probing. At times, if the stricture was impermeable he forced a passage through the posterior wall of the duct. A piece of strapping was then placed just below the sac, so that the style did not press on the skin. A special style—gold-plated, and obtainable from Courlander, of Croydon—was then passed, and the latter was so constructed that when a piece of strapping was placed on its arms it could not move. Whilst it was *in situ* argyrol 5 per cent. was used three times a day, or such other application as might be desirable. Later, when a firm-edged fistula had formed, the patient was instructed to irrigate the sac three times a day, passing the style at night, and taking it out in the morning. To cure the fistula it could be dilated, and whilst stretched all the cicatricial tissue cut away, after which the edges of the wound were brought together and covered with collodion. He proceeded to criticise the operations of Toti, Eichen, and West. The first of these consisted in making a large open window between the sac and the nose, and as the nose in cases of lacrymal obstruction was so very often diseased the operation, in his judgment, could scarcely receive the approval of ophthalmic surgeons. And the patient experienced considerable annoyance on blowing his nose, and the operation provided no vertical tube like the duct to carry a flow of tears opposed to the entry of organisms to the sac. Eichen side-tracked the tears to the antrum—i.e., converted this cavity into a pool of stagnant tears. It also had the same objections as those urged against Toti's operation. West's operation was for obstruction low down in the duct, and consisted in removing its nasal wall. It was better than the two foregoing operations, as some of the duct was left, but it had the serious objection that auto-lavage and autoprobing were impossible. The aim of the operation was to make a permanent fistula in the middle meatus, but the task of making one in erectile or semi-erectile tissue in a canal the size of a crow-quill was almost impossible; but in the event of the duct being kept open by constant probing *viâ* the nose, or canaliculus, the erectile tissue would be so damaged that a fibroid stricture would be bound to follow. Mr. Wray said that his object was not so much to attract attention to his own operation as to obtain a formal expression of opinion as to the value of the newer operations of Toti, West, and Eichen.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Vital Principles of Foodstuffs.—Paratyphoid Fever.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Nov. 7th, Dr. T. WARDROP GRIFFITH, the President, presiding.

Dr. J. GORDON SHARP read a short paper on the Vital Principles of Foodstuffs, with special reference to their employment in treatment. He said that he thought there might be something in Funk's statement that he had discovered a pyrimidine-like body which was related to thymine. This body was named "vitamine." Dr. Sharp believed in unboiled milk for children exclusively fed on that fluid, and he warned against the use of all dried milks, and, indeed, against all dried and tinned preparations. He also said it was necessary to guard against the use of foods which had been chilled or frozen for long periods. As remedies, he said, lecithins, glycerophosphates, and the nucleins were of little avail in the treatment of malnutrition, but he said that the crude foodstuffs, such as a mixture of eggs, fat, bone-marrow, and malt extract, did good. He had also great faith in cod-liver oil, and used it in combination with egg (both yolks and whites), and found it useful in all kinds of wasting. Fats had an important action in preventing and curing scurvy, scurvy rickets, and marasmus.—The paper was discussed by Dr. T. CHURTON and Mr. F. H. MAYO.

Mr. A. E. LITTLE read notes on a case of Paratyphoid Fever. The patient, a man aged 38, had a rise of temperature every evening for about two weeks before it reached 104° F., when rose-coloured spots appeared. Widal test for typhoid was negative, but positive for paratyphoid. The case was notified as continued fever on account of the character of the temperature, which came down gradually for four weeks before reaching normal, when there was a relapse, with a rise of temperature for a few days. There were nausea and vomiting occasionally in the early stage of the illness; no diarrhœa; duration of rose-coloured spots was shorter than typhoid. The diagnosis of paratyphoid fever must be made by the agglutination reaction.

The PRESIDENT showed Drawings of the Heart from a case of Patent Ductus Arteriosus.

Mr. R. LAWFORD KNAGGS showed a case of Intractable Vesico-vaginal Fistula following Parturition, in which the left ureter was implanted into the rectum by a sacral operation and the right kidney subsequently removed four and a half years ago. The patient had remained well, but returned to hospital recently suffering from prolapse of the upper and anterior walls of the bladder through the vesico-vaginal opening.

Mr. J. A. COUPLAND showed a specimen of Tuberculous Stricture of the Ileo-cæcal Valve which had produced acute intestinal obstruction. The case was treated by excision of the cæcum, ascending colon, and a portion of the ileum, followed by an end-to-end anastomosis, with a satisfactory result.

Mr. COUPLAND also showed a specimen of a Cystic Appendix which had become adherent to the sigmoid flexure and had given rise to strangulation of a loop of small intestine.

Mr. J. F. DOBSON showed a case of Ankylosis of both Hip-joints in the Flexed Position, following acute suppurative arthritis. A subtrochanteric osteotomy was performed on the left side; on the right side arthroplasty was performed on the lines laid down by Dr. Murphy, with an extremely satisfactory result.

Mr. ALEX. D. SHARP showed a case of Pharyngeal Tuberculosis in a woman aged 34, confined chiefly to the right half the pharynx. There was no clinical evidence of pulmonary phthisis, and only during the last few weeks the upper boundary of the larynx had become involved. Agonising pain on swallowing was relieved by local application of pure lactic acid every third day.

Cases were also shown by Mr. H. COLLINSON, Dr. W. GOUGH, Dr. CHURTON, and Mr. G. CONSTABLE HAYES.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Pathology and Treatment of Dropsy in Relation to Colloids.

A MEETING of this section was held on Oct. 31st, Dr. J. O'CARROLL, the President, being in the chair.

Dr. WALTER G. SMITH read a paper upon the Pathology and Treatment of Dropsy in Relation to Colloids, in which he developed some recent views upon the causation and pathology of œdema and dropsical effusions. The chief factors of œdema were these: 1. Vascular—i.e., blood-vessels and lymph-vessels. (*a*) Increased supply or inflow of transudate. (*b*) Obstructed or diminished outflow through (i.) lymphatics; and (ii.) veins and capillaries. 2. Osmotic pressure. 3. Physico-chemical alterations in the blood. 4. Alterations in cell nutrition: (*a*) Blood-vessels and lymph-vessels; (*b*) tissue cells; and (*c*) nervous influences. 5. Turgescence of cells. Special emphasis was laid upon the condition of watery turgescence of cells, and illustrative experiments were shown in favour of the hypothesis of Martin H. Fischer (Cincinnati) that even a very slight degree of, or increase in, acidity leads to turgor of cells. Renal and cardiac dropsy were respectively discussed, mainly from the colloid chemical point of view, and the bearings of this idea upon treatment were pointed out.

The PRESIDENT remarked that the paper was a most valuable one, and rare in the history of the Academy. Referring to the possibility of œdema occurring without any discoverable fault of the kidneys or heart, he directed attention to a form of acute moderate dropsy met with in alcoholic cases without any sign of renal difficulty when examined by ordinary methods. This condition was found to clear up rapidly after a few days' rest. The rarity of œdema in cases of mitral stenosis, and its frequent occurrence in connexion with mitral regurgitation, was a matter of interest. With regard to the evil effect of saline purgatives in Bright's disease, it struck him that possibly it might be that the normal tendency of the kidney to get dropsical itself may be increased by the absorption of the common salt—sulphate of magnesium—which was so often administered in cases of dropsy. He was also struck by the evil effect of normal saline injections in inflammatory conditions, especially in acute pneumonia.

Professor W. H. THOMPSON inquired if all œdema included in the definition meant accumulation of fluid in the tissue spaces. He pointed out that tissue fluid was different from the fluid present in the lymph channels. The inhibition idea was not, he thought, brought home so closely to the circumstances as one would like, and it must be admitted that there were other factors which were potent in causing œdema. Alteration in capillary pressure certainly produced no influence on increase of fluid in tissues, except in the case of the liver. He considered that alteration in the capillary pressure without alteration in the cell walls had no influence in the production of œdema.

Dr. A. R. PARSONS, Dr. W. M. CROFTON, and Dr. H. T. BEWLEY also spoke.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Nov. 7th, Dr. David Ross, the President, being in the chair.—Dr. W. Langdon Brown read a paper on Recent Work on Glycosuria. A case was shown to illustrate the recently described type of renal glycosuria which approached the conditions produced experimentally by phloridzin poisoning—i.e., an undue permeability of the kidney to sugar, while the blood contained less sugar than normal. Apart from the glycosuria the patient showed no symptoms whatever and was increasing in weight. The importance of the internal secretion of the pancreas in carbohydrate metabolism had recently been emphasised by the observation that in the depancreatised dog the heart lost its normal power of utilising sugar. The difficulty of associating the pancreas with the glycosuria in some cases was due to the fact that the pancreatic lesion might not be in an active stage at the time the glycosuria was noted, and examples were given of this. Again, the pancreatic defect might not be absolute, but merely relative, owing to overaction of some antagonistic ductless gland, such as the suprarenal, thyroid, or pituitary. Loewi's adrenalin eye test for pancreatic insufficiency was based on this antagonism, and might enable us to determine whether a given case of glycosuria was due to the pancreas. Organic disease of the suprarenals did not cause glycosuria because it was accompanied by a deficiency of adrenalin, but the use of adrenalin in asthma might produce glycosuria, and the suggestion was made that some cases of high blood pressure with glycosuria in later life might be due to overaction of the suprarenals. Overaction of the thyroid, as in Graves's disease, was frequently accompanied by glycosuria, or at any rate by lowered tolerance for sugar, and the medicinal administration of thyroid extract would not infrequently excite glycosuria. With overaction of the pituitary body such as occurs in the early stages of acromegaly glycosuria was often present, while in the later stages when the posterior lobe of the gland had been destroyed there was a raised tolerance for sugar. A case of arrested acromegaly was shown in support of this, a woman who could consume 256 grammes of dextrose at one time without excreting any. After experimental ablation of the gland subsequent removal of the pancreas would no longer excite glycosuria. Puncture of the fourth ventricle excited glycosuria through irritation of the suprarenal and pituitary body. The clinical equivalent of this was seen in the glycosuria of cerebral hæmorrhage, tumours of the brain, and concussion. In an unconscious person the discovery of glycosuria was no evidence of diabetic coma, unless there was diacetic acid present as well. The conception of glycosuria which held the field to-day was a loss of balance between the internal secretions. In treatment the aim was not simply to find a carbohydrate-free diet, for diabetics could often metabolise some form of carbohydrate, such as potatoes, oatmeal or lævulose, while meat proteins might excite glycosuria mainly by their stimulating effect upon metabolism. Cooked eggs and vegetable proteins did not have this effect. Wheat flour was not well borne, and the greatest difficulty was to find a satisfactory substitute for bread. Pure gluten bread was nearly always badly borne, and it was better to allow a small amount of some ordinary bread or of a gluten bread containing sufficient starch to be palatable. The citrates replace carbohydrates to some extent, as may alcohol, as whisky, 1 oz. per diem. To check the onset of acidosis alkalies should be given, but not of one metal alone, or those not given may be drained from the patient. A mixture of sodium bicarbonate, potassium citrate, calcium lactate, and magnesium carbonate was advised to be given, in dose and frequency in proportion to the condition of the patient. When any increased restrictions of diet were imposed alkalies should be given to protect the patient. In impending coma the bowel should be washed out and 4 per cent. of sodium bicarbonate with 3 per cent. lævulose in a litre of water administered by drop enema.—A general discussion followed.

BRITISH OTO-LARYNGOLOGICAL SOCIETY.—A meeting of this society was held on Oct. 29th, Dr. J. Walton Browne (Belfast) being in the chair.—Mr. C. A. Adair Dighton (Liverpool) read a paper on Some Interesting Cases Treated in a Provincial Clinic. The cases he reported were of cavernous sinus thrombosis, latent cerebellar abscess lighted up by the mastoid operation, osteochondroma of the auricle, labyrinthitis and meningitis following polyp extraction, and symptomless lateral sinus thrombosis.—The paper was discussed by Mr. Charles J. Heath, Dr. Walton Browne, Dr. F. Spicer, Dr. J. Coubro Potter, and Dr. J. Walker Wood.—A paper by Dr. H. D. McCulloch on the Therapeutics of Radio-active Agencies in Disease, with special reference to the Cure of Chronic Nerve Deafness and Deaf-Mutism, which had previously been circulated among the Fellows, was discussed. Dr. McCulloch affirmed priority in the discovery in 1908 of this method of otological treatment, and submitted reasons why the hitherto employed medicinal and mechanical means had failed to remove the underlying cause. He deprecated inflation of the tubes in chronic catarrhal states until resolution had been effected *in situ* by radio-active agencies judiciously employed. Incidentally, he drew attention to the important immunising effect in subacute infections, referring to his previous contributions on that subject and to the amount of corroborative evidence that had since accumulated abroad. He exhibited and described various minute apparatus in the application of radio-active agents, mentioned his gratifying experience in a typical case of Ménière's vertigo, and drew attention to the promise of success this method held out in preventing deaf-mutism, the notes of one case being given. The paper was concluded by a tabulated list of 64 cases of hopeless deafness treated by him in 1911.—Dr. Walton Browne drew attention to a case of oto-sclerosis, reported at the recent International Otological Congress, markedly benefited by radium. In this case the improvement had been maintained.—Mr. Heath congratulated Dr. McCulloch on his interesting and scientific paper.—Dr. Potter required further information as to the selective action of the rays.—Mr. Dighton discussed the paper entirely from the aural point of view, strongly objecting to the statement that this treatment promised success in the prevention of deaf-mutism, as this "was not only misleading, but on the fact of things impossible."—Mr. B. G. Pullin, Dr. Spicer, and Dr. Wood joined in the discussion, the last-named stating that he had seen four of Dr. McCulloch's cases and tested them before and after three months' treatment, and though the hearing had not much improved there was an improvement.—Dr. McCulloch replied.—Mr. Charles Heath gave a demonstration of the Usual Methods of Drainage of Suppurating Ears. He said that a persistent discharge from an ear is uniformly accompanied by disease in the mastoid antrum, no matter whether the discharge escapes through the tense or through Shrapnell's portion of the drumhead. He pointed out (and illustrated his statement by moist specimens, diagrams, and patients) that when discharge escapes through a perforation in Shrapnell's membrane the change of route is due to the fact that the channel leading down to the tympanum, inside the incus, is obstructed by swelling of the mucosa of the inner attic wall, and that if the parts outside the incus (including Prussac's space and Shrapnell's membrane) were not unduly weak and capable of being perforated by the pressure of the pus that complete obstruction and acute mastoiditis would result. He exhibited diagrams of swollen mucous membrane obstructing drainage through the Eustachian tube, the tympanum, the attic, and the aditus, and described the symptoms they each produced. Mr. Heath stated that he had treated a considerable number of cases with perforation in Shrapnell's membrane, and while upon the operating table they all proved to be cases of mastoid disease draining on the outer side of the incus instead of (as usual) inside it; pathologically they were, therefore, not cases of attic disease at all. He asserted that it is only when discharge from the antrum descends inside the incus that it is able to reach the tympanic cavity and escape thence in the usual way through a perforation in the membrana tensa. Mr. Heath referred the Fellows to his article in THE LANCET of April 27th, 1907, where he recorded other cases of this kind which were afterwards exhibited before the British Laryngological and Otological Society.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The autumn meeting of the Northern and Midland Division of this society was held by the courtesy and at the kind invitation of the visiting committee at the Borough Mental Hospital, Leicester, on Oct. 23rd. Dr. J. F. Dixon presided.—Dr. T. Arnold Johnston read a very interesting paper on the Position of Pathology in Mental Hospitals. He referred to the difference in psychological ideas to-day as compared with formerly. He dealt with the relation of the medical superintendent and the medical officers to laboratory and research work, and to the ordinary routine duties of an asylum. He considered that the "incubus of routine" stifled ambition, and thought the medical officer needed encouragement and training to obtain his help in laboratory work, and that the pathological department ought to cover both ordinary sick-room work as well as special mental hospital conditions. There was need of a system of educating and interesting the medical officer; of a series of centres for the higher technical forms of laboratory work; and of an interchange and collating of proved research facts and their application to treatment. Altogether the paper brought forward many interesting and important points.—Remarks followed by Dr. J. F. Dixon, Mr. H. J. Blakesley, Dr. B. Pierce, Dr. C. A. Bryan, and others.—In the absence of Dr. H. D. MacPhail his paper on Some Observations on the Cerebro-spinal Fluid was read by Dr. C. H. G. Lyall. He dealt with the results of an estimation of the amount of albumin in the fluid from a series of cases of various forms of mental disorder. He used 5·5 c.c. of the fluid diluted with an equal quantity of water, the fluid being obtained by lumbar puncture. The amount of albumin present was found to vary within wide limits, the lowest being 0·03 per cent. and the highest 0·3 per cent. General paralysis always showed an increase. He considered the test of value in all classes of mental diseases and had found that the greater the amount dose and frequency in proportion to the condition of the patient. When any increased restrictions of diet were imposed alkalies should be given to protect the patient. In impending coma the bowel should be washed out and 4 per cent. of sodium bicarbonate with 3 per cent. lævulose in a litre of water administered by drop enema.—A general discussion followed.

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The difficult subject of the various cirrhoses of the liver is dealt with in an admirable manner, and the account and classification of these conditions are the best with which we are acquainted. After a general discussion of the various classifications proposed, Dr. Rolleston adopts for clinical purposes a broad division into two types—viz., ordinary, or portal, cirrhosis, with a rare sub-variety, pigmentary cirrhosis, and biliary cirrhosis, which is subdivided into hypertrophic biliary cirrhosis and obstructive biliary cirrhosis. The descriptions and discussion of the cirrhoses extend to over 160 pages, and include full accounts of the symptoms, complications, and accidents incidental to these diseases. In connexion with portal cirrhosis it is, as the author remarks, somewhat surprising to find from statistics that hæmatemesis occurs less frequently than jaundice, and that it is recorded in only about one-fourth of all patients dying with a cirrhotic liver. In regard to hypertrophic biliary cirrhosis he gives in his adhesion to the French school, who regard this condition as different clinically and pathologically from portal cirrhosis. He points out that it is distinctly rare, and he believes that cases of ordinary cirrhosis with large livers but without persistent jaundice are frequently mistaken for it. The existence of an obstructive biliary jaundice is carefully discussed in the light of experimental and pathological observations, and the origin of the fibrosis is fully considered. It would appear that there is very little evidence that biliary obstruction *per se* causes cirrhosis. The description of primary malignant growths of the liver is interesting, and a useful classification is given. The condition to which the name of cancer with cirrhosis was formerly applied is critically discussed, and Dr. Rolleston accepts the view formulated by Turnbull and Worthington, that the cirrhosis is the primary change and that a compensatory hyperplasia of liver cells occurs which eventually becomes excessive and atypical and thus develops into carcinoma. He therefore suggests that it should be called primary carcinoma supervening in a cirrhotic liver or cirrhosis maligna or carcinomatosa. The varieties of jaundice and the relation of this symptom to the diseases with which it is associated are fully discussed, and all the newer work upon these questions is incorporated.

Diseases of the gall-bladder and bile ducts are dealt with in the same critical and exhaustive manner as the diseases of the liver itself. The concluding section of the book is devoted to the subject of cholelithiasis. The etiology of this condition is carefully considered, and the varieties of gall-stones, their mode of production, and the symptoms and complications are all fully dealt with.

Dr. Rolleston's book is an admirable work of reference in every sense. It presents all the information obtainable from a very wide experience and an encyclopædic acquaintance with the literature of the subject in a practical, interesting, and readily available manner. In every instance the question of treatment is set forth in full detail, and where alternative methods are available their relative advantages are indicated. We feel confident that it will long remain the standard work of reference upon the subjects of which it treats.

Gonorrhœa in Women.

By CHARLES C. NORRIS, M.D., Instructor in Gynæcology, University of Pennsylvania. With an Introduction by JOHN G. CLARK, M.D., Professor of Gynæcology, University of Pennsylvania. London: W. B. Saunders Co. 1913. Pp. 521. Price 25*s.* net.

THE important rôle which the gonococcus is thought by some gynæcologists to play in the production of pelvic disease in the female is shown by the appearance of this monograph of 521 pages. It is naturally an extremely difficult matter to determine the exact number of patients suffering from gonorrhœa, and especially is this the case with gonorrhœa in the female. The published statistics with regard to the frequency of the disease vary very widely, and in many instances no reliance can be placed upon them, because no bacteriological examination has been carried out. In a number of the cases, moreover, such an examination yields no useful information, as the organism is not found, and yet it may well have been the original cause of the disease.

In the year 1901 a Committee on the Prophylaxis of Venereal Disease in New York considered the matter, and estimated that at that time there were 200,000 venereal patients walking the streets of New York. In 36 dispensaries and charitable institutions 14,649 cases of gonorrhœa were treated during the year, but this does not include a number of cases of complications, such as cystitis, venereal warts, and ophthalmia. It has been stated that 80 per cent. of all men in large cities have had gonorrhœa one or more times, that 45 per cent. infect their wives, that 80 per cent. of all operations upon women for disease of the uterus and adnexa are caused by gonorrhœa, and that 20 per cent. of all cases of blindness result from the same cause. Of about 12,000,000 people insured in Germany some 750,000 are annually infected with venereal disease. The author quotes a table showing that the incidence of venereal disease in the different armies of the world varies from 15 per cent. in the Bavarian army to 196 per cent. in the United States army, and a similar table for the navies shows an incidence-rate varying from 66 per cent. in the German navy to 160 per cent. in the American. These figures, even if they cannot be accepted without cavil, show that gonorrhœa occurs with almost incredible frequency, and it must undoubtedly be the cause of an immense amount of suffering and disability in the female sex.

In the chapter on the bacteriology and pathogenesis of gonorrhœa the author describes the best the individual subjects treated of adequately within the space available. We can only refer to some of the conditions described and discussed. Dr. Rolleston alludes to the conception of functional disease of the liver, and points out that while the symptoms formerly ascribed to functional inefficiency of the liver are now capable of explanation by other conditions, such as indigestion, constipation, or auto-intoxication, yet it is probable that this condition may be responsible for many symptoms in view of the complex and many-sided activities of the liver. At the same time, in the present state of our knowledge, its existence is difficult to establish. The condition described by Pick as pericarditic pseudo-cirrhosis of the liver is carefully discussed, and is regarded for all practical purposes as an extreme grade of chronic venous engorgement of the liver in cardiac patients with adherent pericardium.

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It is a sad reflection that one of the authors, the late Mr. Edward Nettleship, should have died before the issue of the complete work. His great attainments and industry are a distinct loss to scientific work in elucidation of the problems of heredity.

Clinical Laboratory Methods: A Manual of Technique and Morphology designed for the Use of Students and Practitioners of Medicine.

By ROGER SYLVESTER MORRIS, A.B., M.D., Associate Professor of Medicine in Washington University, St. Louis. London and New York: D. Appleton and Co. 1913. Pp. 343. Price 12*s.* 6*d.* net.

THE number of problems on which the clinical laboratory is called upon to aid the physician or surgeon becomes greater every year, and as no one can carry all the details of the necessary procedures in his head continual reference is needed to a library of books dealing with chemistry, histology, and biology.

In the volume before us Dr. Morris has collected together the methods of examination most often called for, and has thus performed a most useful service to all clinical pathologists and to the students of medicine who work in their laboratories. The book deals first with the examination of the urine, setting forth the methods of identifying and measuring the various substances which may be contained in it—salt, albuminoids, pigments, ferments, and parasites—as well as describing the method of estimating the functional condition of the kidneys by the phthalein test. The gastric juice is next dealt with, the various test-meals being described, as also the procedures needed for investigating the stomach-contents when withdrawn; and the examination of the fæces is similarly se
Methods are here included for making per
preparations of the intestinal worms. Chapt
deals with the sputum and Chapter V. with
blood, the concluding section being devoted
puncture fluids, including the cerebro-spinal fluid, in connexion with which the Wassermann test is described. Practical directions are given throughout for the performance of the different methods, the author's own knowledge of the matters with which he deals being evident, and references being frequently given to original articles in which the different methods were first described. There are a certain number of illustrations, chiefly of rarer objects such as animal parasites, but also of apparatus: they might perhaps have been more numerous with advantage.

We warmly recommend the book to those for whom it is intended.

Le Problème Physiologique du Sommeil.

Par HENRI PIÉRON, Directeur du Laboratoire de Psychologie Physiologique de la Sorbonne. Paris: Masson and Co. 1913. Pp. 520. Price 10 francs.

THE physiological problem of sleep is a subject on which countless minds have worked, not always with conspicuous discrimination or success, ever since man turned his attention inwards on the problems of his own organism. Physiologists and psychologists alike have propounded hypothesis on hypothesis, till probably more have been forgotten than are remembered; but we do not think that the difficulties in the way of its solution have been more clearly grasped, or an attempt towards that solution more lucidly expressed or more carefully worked out, than in the present memoir, which represents the researches of some 12 years.

The author remarks that it would be impossible now to propound a theory of sleep for which priority would not be claimed, even by "une voix d'outre-tombe," but he asserts with equal confidence that the facts on which such hypotheses should be based are conspicuous by their poverty. He has therefore devoted many years of experimental work to a determination of the actual factors involved in the oncoming of normal sleep, work based on a study both of human sleep and of the sleep of animals. The t is
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Whatever may be the outcome of subsequent investigation, Dr. Piéron's book will take its place as one of the most scientific contributions to the study of the problem of sleep that have appeared in any language.

Der Blutdruck des Menschen: Ergebnisse der Tonometrie.

Von Dr. ARTHUR HORNER, Assistent der I. Medizin. Abtheilung des K.K. Allgem. Krankenhauses in Wien. Mit einem Vorwort von Professor Dr. J. PAL. 7 Abbildungen in Text. Wien und Leipzig: Moritz Perles. 1913. Pp. 198. Price 6 kronen.

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This edition has been brought up to date, and special interest attaches to the last two sections of the book dealing respectively with serum therapeutics and with organotherapy. Shiga's anti-dysenteric serum is discussed. Shiga claimed that by its use he had reduced the mortality from bacillary dysentery in Japan from 35 *per cent.* to 9 per cent., but in this work it is said that the experience of other observers does not support this statement. An adverse opinion is also given of the value of Yersin's antiplague serum.

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First Principles of Hygiene. By W. D. STURROCK, D.M. Oxon. Oxford: Clarendon Press. 1913. Pp. 256. Price 2*s.* 6*d.*—In this small volume Dr. Sturrock has presented very clearly a great deal of useful information on matters of personal, public, and domestic hygiene, subjects which he has throughout the book treated as far as possible as questions of applied physiology, and has incorporated with and wives being included in the row. It is thus far from easy to tell at a glance which particular group of individuals belongs to each particular sibship. This is perhaps rather a trifling objection, as there is no real ambiguity. There are a few slight errors in the plates; of these some, but not all, are referred to in the list of corrigenda at the beginning of the volume. The absence of the reference number of one diagram on Plate LIV. appears to have escaped the attention of the authors. We draw attention to this because the pedigree is of rather special interest, as it shows a family in which albinism appears to have been latent for eight generations and then to have appeared in three individuals of one sibship. Besides the descriptions of the plates the text contains the bibliography of the monograph with its 700 entries. To some of these a brief note has been appended describing the relevant contents of the work referred to. We understand that the material collected in Part II. is to be statistically reduced and analysed in Part III.

It is a sad reflection that one of the authors, the late Mr. Edward Nettleship, should have died before the issue of the complete work. His great attainments and industry are a distinct loss to scientific work in elucidation of the problems of heredity.

Clinical Laboratory Methods: A Manual of Technique and Morphology designed for the Use of Students and Practitioners of Medicine.

By ROGER SYLVESTER MORRIS, A B., M.D , Associate Professor of Medicine in Washington University, St. Louis. London and New York: D. Appleton and Co. 1913. Pp. 343. Price 12*s*. 6*d*. net.

THE number of problems on which the clinical laboratory is called upon to aid the physician or surgeon becomes greater every year, and as no one can carry all the details of the necessary procedures in his head continual reference is needed to a library of books dealing with chemistry, histology, and biology.

In the volume before us Dr. Morris has collected together the methods of examination most often called for, and has thus performed a most useful service to all clinical pathologists and to the students of medicine who work in their laboratories. The book deals first with the examination of the urine, setting forth the methods of identifying and measuring the various substances which may be contained in it—salt, albuminoids, pigments, ferments, and parasites—as well as describing the method of estimating the functional condition of the kidneys by the phthalein test. The gastric juice is next dealt with, the various test-meals being described, as also the procedures needed for investigating the stomach-contents when withdrawn; and the examination of the fæces is similarly set forth. Methods are here included for making permanent preparations of the intestinal worms. Chapter IV. deals with the sputum and Chapter V. with the blood. the concluding section being devoted to puncture fluids, including the cerebro-spinal fluid, in connexion with which the Wassermann test is described. Practical directions are given throughout for the performance of the different methods, the author's own knowledge of the matters with which he deals being evident, and references being frequently given to original articles in which the different methods were first described. There are a certain number of illustrations, chiefly of rarer objects such as animal parasites, but also of apparatus: they might perhaps have been more numerous with advantage.

We warmly recommend the book to those for whom it is intended.

Le Problème Physiologique du Sommeil.

Par HENRI PIÉRON, Directeur du Laboratoire de Psychologie Physiologique de la Sorbonne. Paris: Masson and Co. 1913. Pp. 520. Price 10 francs

THE physiological problem of sleep is a subject o which countless minds have worked, not alway with conspicuous discrimination or success, eve since man turned his attention inwards on th problems of his own organism. Physiologists an psychologists alike have propounded hypothesis o hypothesis, till probably more have been forgotte than are remembered; but we do not think tha the difficulties in the way of its solution have bee more clearly grasped, or an attempt towards tha solution more lucidly expressed or more carefull worked out, than in the present memoir, whic represents the researches of some 12 years.

The author remarks that it would be impossibl now to propound a theory of sleep for whic priority would not be claimed, even by "une voi d'outre-tombe," but he asserts with equal confidence that the facts on which such hypothese should be based are conspicuous by their povert He has therefore devoted many years of experimental work to a determination of the actua factors involved in the oncoming of normal slee work based on a study both of human sleep and o the sleep of animals. The psychological aspect i left on one side, and attention is concentrated o the physiological phenomena, respiratory, circulatory, and sensori-motor, accompanying sleep Valuable analogies are drawn from the pathologica conditions of narcolepsy, lethargy, and somnolence and from coma and comatose states. The hibernation of animals is also fully discussed. An elaborat description is next furnished of the physiologica and histological modifications produced in animal experimentally deprived of normal sleep, and it i shown that during the artificial prolongation of th waking life a "hypnotoxin" develops in the seru and cerebro-spinal fluid of the animal experimented on. It is further shown that this toxi is not the banal toxin of fatigue; its injectio into normal animals (into the fourth ventricle is followed after some 30 or 40 minutes b an overwhelming and irresistible desire to slee The author shows commendable caution, however, in discussing the mechanism of this hypnotoxic effect. His view, briefly expressed, is tha this hypnotoxin acts by setting free an inhibitor mechanism in cases where sleep is sudden an profound, while in cases of somnolence there i a direct intoxication of cellular elements, thei functional activity being paralysed by a mechanism which is not nervous, but chemical.

The historical chapters on the theories of slee are very interesting and instructive, nor are the without humour. There is no index of subject only one of authors' names; but there is valuable bibliography of some 61 pages, containing we calculate, some 2000 references.

The work is one of notable erudition, and it is a the same time lucid and readable. The autho does not claim finality for his theory; indeed, h goes so far as to say that a toxic theory is no likely to be of universal applicability. Nevertheless, the experimental basis of his theory is high elaborated, and the results are very suggestive

Whatever may be the outcome of subsequent investigation, Dr. Piéron's book will take its place as one of the most scientific contributions to the study of the problem of sleep that have appeared in any language.

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The Ophthalmic Year Book. Vol. IX. Containing a Digest of the Literature of Ophthalmology for the Years 1911 and 1912. Edited by EDWARD JACKSON, M.D., Professor of Ophthalmology in the University of Colorado. Illustrated. Denver: Herrick Book and Stationery Company. 1913. Pp. 518.—The Ophthalmic Year Book for 1911 and 1912 is well up to the standard we have been led to expect. The enormous labour involved in such productions is usually but scantily acknowledged by the support afforded to them, but the gratitude of those who find reason to use them is perhaps some reward. We notice that this publication depends upon the assistance of the Knapp Testimonial Fund of the American Medical Association. This is not as it should be, and we hope that better support will be accorded in the future. The Ophthalmic Year Book has only one serious rival—viz., Nagel's Jahresbericht für Augenheilkunde. We cannot say that it reaches the high standard attained by the German work, but the latter has two great drawbacks: its utility is limited to those who read German, and its publication is usually delayed till about two years after the date of the literature reviewed. On the other hand, English, and especially American, ophthalmic literature receives in the work under review a fuller measure of consideration, so that we have here a valuable link with our confrères across the Atlantic.

Handbook of Information regarding the Routine Procedure of the Division of Communicable Diseases, 1913. By J. S. BILLINGS, Jr., M.D., Chief of Division, Department of Health, City of New York. Published by the Department of Health, City of New York. Pp. 200.—This little work, besides fulfilling its aim of giving information to the medical profession of the City of New York and other parties concerned in the routine of matters relating to communicable diseases, will be of interest to students of comparative sanitation. Besides local information and ordinary routine administration in cases of communicable diseases as affecting the medical profession, institutions, hotel keepers, house owners, and the public generally, it deals in detail with tuberculosis, typhoid, cerebro-spinal meningitis, acute poliomyelitis, malarial fever, puerperal septicæmia, erysipelas, pneumonia, diphtheria, venereal diseases, glanders, and so forth. The technique of the various tests used is described. The sections on typhoid fever and venereal diseases are new. The method of through and through binding with metallic wire impairs the convenience of the book, as it requires a forcible effort with both hands to keep it open.

La Transplantation Restauratrice du Péroné après les Résections des Os Longs du Membre Supérieur pour Ostéo-sarcomes. Par le Dr. HENRY FAY, de la Faculté de Médecine de Paris; Interne de l'Hôpital Saint-Joseph de Paris. Paris: A. Maloine. 1912. Pp. 140.—This pamphlet is decidedly above the average inaugural thesis, indeed it is a real addition to surgical literature. The tendency at the present time is entirely to excise a portion of a bone for sarcoma rather than to amputate; but the limb from which a large portion of a bone has been taken is rendered almost useless unless the damaged bone can be replaced. The fibula seems to offer itself for this purpose, as it may be removed from its natural site without any impairment of function, at least in adults. This treatise deals with the application of portions of the fibula to replace parts of the humerus which have been removed on account of the presence of malignant growths. Ten cases are recorded in which this operation has been performed, and a number of skiagrams taken after the operation show the good results obtained.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLVII., Nos. 1 and 2. Cambridge University Press. Pp. 1–148. Price 9s. —On the Production and Utilisation of Glycogen in Normal and Diabetic Animals, by E. W. H. Cruickshank. Minkowski in 1892 showed that after complete extirpation of the pancreas, in addition to glycosuria, there was a rapid disappearance of glycogen from the liver; even on the second day after the operation the liver was practically glycogen-free. The administration of glucose did not give rise to any accumulation of glycogen, while the administration of lævulose caused glycogen to appear in the liver. The author experimented on female dogs from 5 to 10 kgm. in weight. Depancreatisation was performed by Hédon's method. Details are given as to the method of estimating the glycogen in the liver and in the normal and diabetic heart. The author confirms Minkowski's observation as to the almost complete disappearance of glycogen from the liver, which becomes loaded with fat. The latter's results with lævulose feeding the author was unable to confirm. Normally the heart muscle contains about 0·5 per cent. of glycogen. Under conditions of increased activity the heart may use up its stored glycogen in a few hours. The diabetic heart contains considerably more glycogen than the normal heart. Activity of the heart evoked by adrenalin rapidly uses up the glycogen. After death, if the normal or diabetic heart be kept warm, glycogen rapidly disappears, due to a glycogenolytic ferment.—The Changes in the Reaction of Growing Organisms to Narcotics, by H. M. Vernon. The author describes the effects of a large number of narcotics—e.g., eight of the monohydric alcohols—esters and ketones. Great changes in the reaction of growing organisms to these and other narcotics were observed, which he suggests were probably for the most part dependent on changes in the composition of the cell lipoids.—The Volume of the "Dead Space" in Breathing, by A. Krogh and J. Lindhard. The authors criticise the results of Douglas and Haldane, who from their experiments concluded that the "dead space" may be increased during muscular work to several times the resting volume. The Danish authors find, however, that the effective dead space in breathing is not appreciably altered during heavy muscular work and that the direct method of determining the composition of the alveolar air from samples taken at the end of inspiration and expiration becomes untrustworthy during muscular work.—The Nature of Thrombin and Antithrombin, by B. J. Collinwood and M. T. MacMahon. The authors used solutions of thrombin obtained by digesting well-washed sheep's fibrin for 24 to 48 hours in 5 per cent. NaCl. This thrombin is destroyed by heat (50—60° C.), acid, alkali, and liquor pancreaticus. Antithrombin, which is present in serum, was used. It is destroyed by heat (60—65° C.), acid, and will only act in an alkaline medium; neutralisation does not destroy it, but only inhibits its activity. The authors suggest that thrombin is a protein, and antithrombin a proteolytic ferment; while fibrin is a combination of thrombin and fibrinogen.—The Ileo-cæcal Sphincter, by Arthur F. Hertz. No mixing takes place under normal conditions between the contents of the small and the large intestines, so that fæcal matter that has once reached the cæcum can never return into the ileum. The sphincter prevents the contents of the ileum passing too rapidly into the cæcum. The author gives an account of some recent observations made with Alan Newton by means of bismuth and X rays.—The Normal Movements of the Colon in Man, by Arthur F. Hertz and Alan Newton. The authors record a series of interesting observations under X rays of six normal individuals whilst they were eating an ordinary dinner between five and seven hours after a bismuth or barium breakfast. On two occasions they observed a large movement of the colon.—The Action of Ions and Lipoids upon the Heart of the Frog, by A. J. Clark. This is a highly technical paper, of interest more especially to pharmacologists. The special apparatus for perfusing and recording the movements of the heart are described. The paper is divided into four parts, of which the first deals with action of kations by altering the ionic content of Ringer's fluid. The authors use the term hypodynamic state to indicate that state of the heart where the frequency remains nearly unaltered but the force of contraction and the rate of conduction are both decreased. The se [illegible] action of anions on the [illegible] third with lipoid substance [illegible] of the heart. The fourth part is occupied with a discussion as to the mode of action of the substances that revive the hypodynamic frog's heart. The summary of results extend to nearly two pages.—W. B. Hardy contributes a short note on Differences in Electrical Potential within the Living Cell.—The Regulation of Respiration and Circulation during the Initial Stages of Muscular Work, by A. Krogh and J. Lindhard, so far as these refer to changes in ventilation, blood flow, pulse-rate, respiratory exchange, and alveolar CO_2 tension. Evidence is brought forward to show that the rise of ventilation, like the increase in heart-rate, is produced not reflexly but by irradiation of impulses from the motor cortex. As to ventilation, these impulses act indirectly through the respiratory centre by suddenly increasing its excitability towards hydrogen ions.—The Carbohydrate Metabolism of the Isolated Heart-lung Preparation, by S. W. Patterson and E. H. Starling. The now well-known heart-lung preparation obtained from dogs rendered completely diabetic by removal of the pancreas 2–7 days beforehand was used. A series of experiments was also made on the consumption of sugar by the isolated lungs in normal and diabetic dogs, serum being perfused. The lungs—normal or diabetic—use up glucose to about 1·3 to 1·5 mgm. glucose per gramme of heart muscle per hour. The figures for the consumption of sugar in normal hearts are extremely variable. Both in the diabetic and the normal heart the authors by the method of comparative blood analysis were unable to arrive at any definite decision as to the consumption of sugar by the heart muscle. If, however, the diabetic heart is over-stimulated with adrenalin, it uses up not only the sugar in the circulatory blood, but also the amount of glycogen previously stored in its substance. The increased utilisation was not due to the lungs. Some of the previous conclusions of the authors as to the beneficial effects of pancreas on the diabetic heart "must be abandoned," or at any rate are susceptible of another explanation. They are inclined as a result of their work "to abandon the view that the essential, or at any rate the primary, factor in diabetes is the absence of power on the part of the tissues to consume sugar."

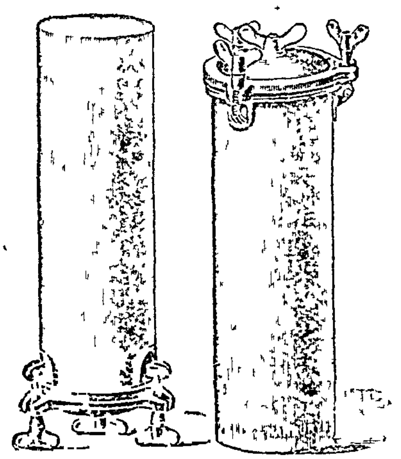
The Quarterly of the Federation of State Medical Boards of the United States. Edited by OTTO V. HUFFMAN. Federation Press, Easton, Pennsylvania. Vol. I. No. 1. October, 1913. Price 50 cents.—The first issue of this publication is naturally mainly of local interest, though a perusal of several of the articles shows not a little that is of interest to all who are especially concerned with the subject of medical education in general. Among these may be mentioned the articles on the Homœopath's View-point of Medical Education, by Dr. Royal J. Copeland; Rules and Regulations Governing Examinations, by Dr. John M. Baldy; Discipline of the Character in Medical Education, by the Hon. Justice Eugene A. Philbin; and Universal Reciprocity, by Dr. Beverley Robinson.

AMERICAN ASSOCIATION OF IMMUNOLOGISTS.—This society was organised on June 15th at Minneapolis, with 41 original members, all of whom have been pupils of Sir Almroth E. Wright, of London. The objects of the society are as follows. To unite the physicians of the United States and Canada who are engaged in the scientific study of immunology and bacterial therapy; to study the problems of immunology, and to promote by its concerted efforts scientific research in this department; and to spread a correct knowledge of vaccine therapy and immunology among general practitioners. The officers temporarily chosen are: Dr. Gerald B. Webb (Colorado Springs), president; Dr. George W. Ross (Toronto), vice-president); Dr. Willard J. Stone (Toledo), treasurer; and Dr. Martin J. Synnott (Montclair), secretary. A council of five members was also selected, whose duty it will be to manage the affairs of the society in the interim of the meetings. This council is made up as follows: Dr. A. Parker Hitchens (Glenolden), chairman; Dr. J. Robinson (Temple, Texas), Dr. Oscar Berghausen (Cincinnati), Dr. Campbell Laidlaw (Ottawa), and Dr. Henry L. Ulrich (Minneapolis). The first annual meeting of the society will be held on June 1st, 1914. This is Monday of the week of the annual session of the American Medical Association, and it will be held at the same place. The programme will be made up of original papers dealing with the different branches of vaccine therapy and immunology.

New Inventions.

A STERILISER-TANK FOR INSTRUMENTS.

I HAVE found the steriliser-tank shown in the illustration very useful when operating in private, as it obviates the trouble and delay which occur when it is necessary to get things ready in the patient's home. This steriliser-tank is a cylindrical vessel 11 in. high and 3½ in. inside diameter, fitted with a lid, which is clamped on by three thumbscrews fixed to lugs which are riveted to the cylinder, like the lid of a high-pressure steriliser. In the centre of the lid is a hole which is closed by a screwing plug. The tank is boiled over a Bunsen or Fletcher burner, the instruments placed inside, and the lid, *with the plug removed*, clamped on. When sufficiently boiled a portion or all of the water is poured off, all that is necessary to do this being to stand the steriliser upside down over a basin; it will rest quite securely on the screws, which act as a stand. When empty, some lysol, spirit, or other solution can be poured through the hole in the lid, the plug screwed in, and the container placed in the bag with the instruments ready to be turned out at the time of the operation, sterilised in readiness for use. When properly screwed up the steriliser-tank is quite water-tight.



The apparatus, which has been made for me by Messrs. Allen and Hanburys, Limited, Wigmore-street, London, W., is of such a size that it will take any ordinary sized instruments required for almost any major operation.

Harley street, W. THOS. NORTH, F.R C.S. Irel.

A PORTABLE X RAY PLANT.

Mr. H. Vogelsberg, a practical electrician, writes as follows:—

"In conjunction with Dr. J. W. Hodgson, of Exmouth, I have designed a portable and self-contained X ray apparatus, the purpose of which is to enable a radiogram to be taken at a patient's residence, and thus save a large amount of unnecessary discomfort or suffering in conveying him to the nearest X ray plant. In time of war it could be used in the open field for examination and location of bullets in the wounded. The car on which the generating plant is erected is a 1906 15-19 h p. four-cylinder Coventry Humber, the flywheel of which is very convenient for driving a dynamo, as it is situated directly under the forward part of the footboards. Three steel T girders are fixed under these boards from the main framework so as to take the weight of the dynamo. When the latter is placed on the car it is raised off a small truck on which it rests when not in use by means of a Weston hoist, and pulled along an overhead rail provided for the purpose in the motor-house until over the position which it has to occupy in the car, and lowered on to its bolts. These bolts can be removed when the car is not required for X ray work. After the car has been driven to the place where it is to be used, the belt is passed round the flywheel and the ends fastened together over the pulley. The dynamo is raised, and the belt made taut by turning round the hand-wheels provided for the purpose, a lock-nut keeping all tight. The dynamo is a continuous current machine, and was supplied by the Cavendish Electrical Company, London. It has an output of 75 volts 12 ampères at 1250 revolutions per minute. The pulley fitted to it is in ratio to the flywheel as one to two; but it would be an advantage to fit a larger pulley on the dynamo shaft, as a steadier speed could more easily be maintained with the engine running faster. The current on leaving the dynamo is carried to the switchboard and passes through the main switch, ampèremetre, and fuse, to the terminals of the switchboard. The mercury interrupter is of the ordinary jet pattern, working in a non-oxidising gas, the gas being carried in a bladder. This type of interrupter has undoubted advantages, but if absolute simplicity is aimed at, one working in oil would be perhaps preferable. The interrupter is worked by a small electric motor, the power for which is brought from the switchboard by means of a flexible wire. Both motor and interrupter are fastened down upon a shallow box which contains the condenser. The advantages of having the interrupter outside the patient's house are twofold: firstly, the elimination of noise; secondly, the man in charge of the motor and plant can look after it and see that it is working properly and well, thus leaving the medical man free. The conductor used for carrying the electricity from the generator to the house is a 7/21 twin cable, carried on a reel in a cable-box. A binding screw is fixed on each end of the real axis, and the inner end of the cable is permanently connected with these, so that only the necessary amount of wire need be unwound, the red end of the axis connected to the interrupter, and from that to the positive pole on the switchboard, and the black end direct to the negative pole. The framework of the couch is made of teak, as light as is possible to be consistent with strength, and can be raised or lowered at one end; the other end can be rested against and fastened by straps to the patient's bed, or can be rested on a trestle. A second switchboard is provided in the patient's room, and stands flat on the ground, a little to the right of the operator, who keeps his foot on a pedal switch. The pedal switch in normal position connects the resistance with the generator; when the pedal is depressed the primary of the coil is connected through the variable resistance. An incandescent pilot lamp gives warning when the current is flowing. The X ray bulb is fixed in a safety case, the inner portion of which is lined with lead oxide. Glass supports are fixed across the openings at each end of the box. An iris diaphragm is fitted over a circular opening on the top of the box, to allow adjustment during the use of the rays. The whole box stands on ball castors, so that it can be moved about under the couch into any position that may be required. The coil used is a Sanax 12 inch intensified coil, which works very well and is free from back currents. Although the apparatus described has not yet arrived at the state of perfection that one would quite wish for, there is reason to suppose that results as satisfactory can be obtained with it as with a fixed plant."

THE SOCIETY OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The annual general meeting of the Fellows and Members will take place at the College, Lincoln's Inn-fields, W.C., on Thursday, Nov. 20th, at 3 P M. Mr. J. Brindley-James, president of the Society of Members, will move this resolution:—

> That this twenty ninth annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the Council of the College, which as now constituted only represents those Members who also hold the Fellowship, and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.

Dr. A. S. Morton will move:—

> That this meeting of Fellows and Members requests the Council to include in their next annual report a balance sheet showing fully and without reserve the assets and liabilities of the College on Midsummer Day, 1913.

A resolution calling for the immediate appointment of a special committee, composed equally of nominees of the Council of the College and of the Society of Members, has been sent in but ruled out of order. All communications should be made to Dr. Sidney C. Lawrence, honorary secretary, 22, Latymer-road, Lower Edmonton, N.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 15, 1913.

The Psychology of Railway Accidents.

IN the appalling series of railway disasters which have occurred within the last few weeks in this country and abroad, it is a very striking circumstance that in almost every instance the source of the accident has been traced to a failure in that human factor on which in the ultimate result the proper functioning of even the most ingenious mechanism must depend. These lamentable accidents have been so numerous, and the error or negligence of the driver or the signalman in each case has been so similar in character, that it is difficult to dismiss the suspicion that in this succession of catastrophes we have to deal with something more than a mere casual variation from the normal average of such events; and this suspicion will be strengthened when we take note of the many attendant circumstances which seem to indicate the operation of novel psychological influences, some of them of a more general character than can be explained by temporary conditions affecting a particular industry.

It would, of course, be absurd to found on even a larger number of such instances a general charge of inefficiency and recklessness; and a charge of this sort would be doubly unjust when, as in the present case, it would be urged against a body of public servants whose past record has been so admirable. But without making any such sweeping accusation, it is quite legitimate to inquire whether these instances of negligence may not be related to that ominous change in the mental outlook of the industrial classes of which there have been so many and such grave manifestations in the last few years. The suggestion might seem fanciful, were it not confirmed by the attitude in this connexion of those who claim, and apparently with authority, to speak for the mass of railway workers. The agitation for the release of the Aisgill driver, no less than the ferment excited by the arrest of the man responsible for the disaster to the Paris-Marseilles express, shows with painful clearness that in its latest phase the sense of corporate unity amongst railway servants has become associated with a lessened sense of responsibility towards the community at large. And the same spirit of cynical indifference to the common welfare, the same reckless pursuit of class interest is, of course, the very essence of the syndicalist movement, where the favourite weapon, the general strike, owes what efficacy it possesses to its power to inflict suffering on the public. But it is obvious that the mental attitude which accepts such methods, and which by their acceptance is strengthened and confirmed in its vicious direction, is fundamentally unhealthy and perverted, and by reason of its morbid character must react upon the whole disposition and activity of the individual who adopts it. The temper of syndicalism represents in the group something akin to the temper of paranoia in the insane personality; and just as the self-centred tendency of the persecutory lunatic warps his sense of proportion, makes him too keenly sensitive of his own rights and callous as to the rights of others and the duties which he owes to others, so does the collective paranoia of syndicalism lead to a similar loss of moral balance in the attitude of the given industrial group towards the community of which it should form a part. And this collective spirit naturally influences for evil the individuals who constitute that group; it fosters a state of emotional irritability, of impulsiveness, which is unfavourable to clearness of judgment and accuracy of perception, and which, therefore, might well contribute to such errors and omissions as those responsible for the recent epidemic of disaster. We are bringing no charge of recklessness, and certainly no charge of malice, against particular persons; but we suggest that the conditions of railway travel to-day require most careful attention, and the attention should not be focussed upon the details of this or that catastrophe.

It may not, then, be too fantastic a speculation to connect these sinister occurrences with the spirit of unrest which has pervaded the industrial world of late; and the mere possibility of such an influence should at all events serve as a warning against an attitude of passive acquiescence in the conditions which have brought that spirit into being. These wider aspects of the industrial problem lie outside the scope of this article, nor do they perhaps admit of being so fitly considered from the special point of view which is here adopted. But it may not be out of place to say that in dealing with them we should act on the principle which is the ideal of medical practice, the principle that treatment should be directed to causes rather than to symptoms. If industrial discontent and unrest are contributory causes of inefficiency and recklessness in individual workers, these causes are in their turn the effects of other causes, and it is to the removal of these deeper sources of evil that the efforts of social reform should be directed. And in this task a due consideration of the psychological factors of the problem will be an aid of no small value. Lying beneath most of the varied manifestations of disorder and eccentricity in modern life may be detected as a potent influence the difficulty of nervous adaptation to a too rapidly changing environment. Even the firmest believer in the essential capacity of the race would hardly maintain that human intelligence has progressed in a degree at all commensurate with the development and multiplication of the numerous instruments devised and fashioned by those gifted and subtle intellects, whose discoveries have revolutionised science since the middle of the last century. It is to the new environment of ideas and sensations created by these discoveries, and by their practical applications, that we have to adapt ourselves to-day; and the process, alike for society and for the individual, must at best be slow and arduous, and will inevitably be attended with such occasional failures as find expression in the spread of social and industrial unrest, with an accompanying growth of neuroses.

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Insured Persons and Herbalists at Worcester.

WE called attention last week to a decision of the Insurance Committee of the county borough of Worcester which by the vote of a majority, led by the chairman of the committee, decided to allow certain persons desirous of making their own arrangements for medical treatment under the National Insurance Act to do so with a herbalist. We may say at once that we regard the decision as a wrong one, not meaning merely that it is foolish and prejudicial to the insured persons for whose benefit the Act was passed, and for whom it is to provide "against loss of health and for the prevention and cure of sickness," but wrong in law according to every reasonable interpretation of the Act and the regulations made under it. The regulation under which the Worcester Insurance Committee came to the decision referred to orders that:[1] "The committee may allow insured persons resident in the county, whether individually or collectively, in lieu of receiving medical benefit under the regulations made by the committee, to make their own arrangements for receiving treatment (including medicines and appliances);" and the next regulation stipulates that where the committee shall be "of opinion upon such evidence as they think sufficient that the arrangements made by any person who has been required or allowed to make his own arrangements under this regulation are satisfactory—that is to say, such as to secure treatment (including medicines and appliances) not inferior in nature, quality, or extent to that provided under the arrangements made by the committee, and to comply in other respects with any conditions which by reason of any scheme for the distribution of Parliamentary grant must be complied with in the case of treatment provided otherwise, there shall be made towards the cost of that treatment such contribution calculated and paid in such manner as hereinafter in these regulations provided." If the Worcester Insurance Committee is right in considering that the above regulations allow it to spend the funds entrusted to it in paying herbalists or any other unqualified persons who pretend to treat the sick, we say without hesitation that it has discovered a way by which to stultify and reduce to ineffectiveness in particular instances a statute passed "to provide for insurance against loss of health and for the prevention and cure of sickness." We say in particular instances because we are satisfied that the good sense of the community will not allow it to entrust itself as a whole to quacks, Christian Scientists, faith-healers, and bone-setters; but at the same time we believe that one of the general objects for which the Act was passed was to protect or divert, both generally and in particular instances, members of the working classes from the dangers of recourse to unqualified advisers in matters concerning their health.

It may be pointed out that anyone, insured or not, may be treated by whomever he pleases, or by no one. But this is a question of treatment at the expense of the Insurance funds, and if these funds are to be distributed to persons for the express object of their being used to remunerate unqualified persons, there is no reason why druggists should not also be included among those with whom the insured may make their own arrangements. We do not mean to suggest that the registered pharmacists, who are doing such good work under the Act, not always upon highly remunerative terms, would wish to compete with herbalists for patients, but we suggest that they would be as well or better qualified to supply their patients with effective treatment. The matter, however, must depend not upon what the medical profession or the Worcester Insurance Committee or the framers of the Insurance Acts may consider right in principle, but upon what the Acts and the regulations made under it may provide. Obscure reference was made in the recent discussion at Worcester to utterances of a Cabinet Minister in the House of Commons and to dicta of the Insurance Commissioners; these clearly will not affect the question. The regulations from which we have quoted the material words do not say that persons are to be allowed to make their own arrangements for "treatment by duly qualified medical practitioners," or the matter would be beyond argument; they use the term "treatment" without qualification except by the parenthesis ("including medicine and appliances"). Reference to the definitions contained in the regulations from which we have quoted shows that treatment means "medical attendance and treatment of insured persons." Here again there is no direct reference to a "registered" or "duly qualified medical practitioner," but the latter description of those who are to be placed on the panel occurs in the opening words of Section 15 of the Act of 1911. And nowhere, we say with confidence, in the Acts of 1911 and 1913, or in the regulations either of the Insurance Commissioners or of the Board of Trade, is there the smallest reference, or hint or suggestion of a reference, to any kind of treatment being supplied under the Act, or at the expense of the funds provided by it, otherwise than at the hands of those for the testing of whose qualifications and for whose registration the State has provided.

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[1] National Health Insurance (Administration of Medical Benefit) Regulations, 1912, made under Section 15, Subsection 3, of the National Insurance Act, 1911, which also see.

In this connexion Subsection 4 of Section 15 of the Act is particularly to the point, but we might quote almost any section or regulation referring to medical benefit to the same effect. We need hardly add that every medical certificate purporting to be given under the National Insurance Acts or under any other Acts of Parliament, whether relating to sickness, death, or any other matter, is valueless unless it is given by a registered medical practitioner, and that as a general rule employers, Friendly Societies, and others who require evidence of the sickness or death of individuals in matters not regulated by Acts of Parliament are equally strict in their demands, under the guidance of ordinary prudence and good sense. As to the precise manner in which the question should be raised we are diffident in expressing an opinion, as we do not find the Insurance Acts explicit in providing for the settlement by the Commissioners of disputes between the minority of an Insurance Committee and a majority upon a point of law, as to which the latter is alleged by the former to have taken a wrong view. The Commissioners are, however, certainly interested in the question, because under Section 54 of the Act of 1913 they have to pay out of the National Health Insurance Fund sums required to meet expenditure "properly" incurred by Insurance Committees, and we have little doubt that upon the audit of the Worcester Insurance Committee's accounts the matter could be raised, if not referred directly at the present stage to the Commissioners. There is also the possibility of an application to the courts to prevent the improper expenditure of money by the Committee being the proper course, but we imagine that this would not be necessary unless the Commissioners declined to intervene in an advisory capacity or otherwise. As a result we predict with some confidence that the majority of the Worcester Insurance Committee will find that treatment by a herbalist is not medical treatment within the meaning of the Insurance Acts, whatever may be their personal views as to its being not inferior in nature, quality, and extent to that provided by the medical profession.

Reversion to Type.

THE greater part of THE LANCET this week is printed in larger type than any issue of the journal has ever been, with the exception to be mentioned, the form now adopted being a practical response to representations which have reached us lately from many readers. The larger type now employed, and for the future to be employed, is almost precisely the type in point of size in which THE LANCET made its first appearance one Sunday morning in 1823, and constitutes a reversion as accurate as most of the examples of that phenomenon which from time to time are illustrated in biological articles. Why the Founder of THE LANCET published his first number on a Sunday morning we have not the least idea; but considering the haste in which all the proceedings in connexion with the original issue of THE LANCET were taken, the probability is that the date of appearance was an accident, and that the selection of the original type had no better reason. Only for one year was the paper printed in a type which is just fractionally larger than the one in which this article is printed, for in November, 1824, the type was introduced in which from that date until November, 1913, THE LANCET has made its appearance. During these 90 years the number of representations to us that the size of the type was inconvenient has been, on the whole, not at all large, if we may make this deduction from a personal experience of about a quarter of that period; but the significant fact is that such representations as have reached us have nearly all been made within the last decade, and have certainly increased in number quite recently. There is no doubt now in our minds that our public will find a larger type agreeable and convenient, and we make the change therefore with pleasure, accompanied with a hope that the next revolution in our printing arrangements will, in accordance with precedent, be delayed for another 90 years. For we like to think that such longevity is assured.

From one old member of our staff among those to whom our intentions were mentioned recently, we received a communication suggesting that we were supplying a great example of racial decadence, inasmuch as, if the demands for a larger type to which we were proposing to accede were well founded, it was obvious that the sight of the medical profession at the beginning of the twentieth century was not so good as it had been during a large proportion of the nineteenth century. But we think that this whimsical protest against what he of course called "change for the sake of change" misses the reasons which underlie the desire of our readers for a larger type. If we may draw general lessons in sociology from such a concrete example as the alteration in the printing of a professional newspaper, we would say that we have here one more proof of the great necessity of the times in which we live—namely, the necessity of "speeding up." We telegraph and telephone instead of writing letters; we use machine-driven vehicles on road or rail instead of trusting to our legs or to our horses; and these things not so much to save ourselves trouble as to give ourselves more time in which to take further trouble. We do not recognise any decadence in securing freedom from friction where it can be obtained, when the resulting smoothness is expressed in a larger output of work. THE LANCET in its present guise is easier to read than it has been for 90 years.

Annotations.

"Ne quid nimis."

MINOR EPIDEMICS OF POLIOMYELITIS IN ENGLAND.

WE publish this week two reports of small epidemics of acute poliomyelitis, one of 6 cases in the neighbourhood of Deddington in Oxfordshire, and the other of 8 cases at West Kirby in Cheshire. Both present certain features of interest to which it may be well to direct attention. In the Deddington epidemic, which seems to have followed a somewhat circular route, not unlike what has been observed in one or two of the smaller French epidemics as recorded by Netter, it was apparently impossible to trace any direct contagion, even by the interposition of poliomyelitis carriers, except in 2 cases, and in regard to them the circumstances are not particularly striking. On the other hand, the remark is made that all the cases lived in close proximity to stables. Reference has already been made in the columns of THE LANCET to the experimental work of Anderson and Frost on the transmission of poliomyelitis by means of the stable fly (Stomoxys calcitrans), and it is suggested in connexion with this Deddington epidemic that it originated in infected stomoxys biting the patient whose case is No. 1 in the series. At least one other small epidemic, recorded by Dr. Edwin Bramwell as occurring at Tillicoultry, is known to have been localised in the neighbourhood of farm steadings, and it may well be that these epidemiological facts will serve to throw some light on the spread of the disease in certain localities. At the same time, it must not be forgotten that in the larger epidemics there are innumerable instances of spread of the contagion by totally different methods, and in view of the fact that poliomyelitis is more or less endemic in London it is improbable that its continuance is associated with the presence of the stable fly. However, the interesting features of the Deddington epidemic are worthy of careful consideration. The analogies between the Borna'sche Krankheit of horses and poliomyelitis are, in the present state of our knowledge, scarcely definite enough to lay much stress on. The outbreak of acute poliomyelitis at West Kirby is important inasmuch as the first case occurred last year, in July, as a sporadic or isolated instance of the affection; seven fresh cases occurred in July and August of this year. From what we have learned of the infectivity of the virus and the possibility of its being carried by individuals who do not actually suffer from the disease, there is nothing remarkable in the reawakening of the disease at West Kirby this summer. There is every reason to suppose that the virus lived during the winter in the nasal mucous membrane of one or more individuals related to the primary case. In this epidemic direct infection by contact seems very probable in a number of the cases. Suspicion has fallen on certain vermin—viz., lice—as being perhaps connected with the origin of the disease in the West Kirby series, and where there is still much that is obscure, it behoves the epidemiologist to weigh carefully and without bias the evidence for and against. It has frequently been remarked in connexion with poliomyelitis that domestic animals have been kept in many houses where the disease showed itself. Yet there are just as many instances of the affection in which no association with the presence of domestic pets is demonstrable. Nevertheless, in the West Kirby epidemic the alleged transmission is one to which the attention of those who have the opportunity of experimental investigation will, we trust, be directed. The somewhat curious circumstances surrounding the first appearance of the disease in this district ought not to be forgotten. The documentary value of these two reports is considerable. From small and localised epidemics, as in this Upminster and Tillicoultry instances, much can be learned of significance from the epidemiological viewpoint, and we trust that any other localised groupings of the disease of this summer or autumn will not go unrecorded.

VALLEY FLOODS AND PUBLIC HEALTH.

AN interesting report has recently been presented to the Surrey county council by the consulting medical officer, Dr. Edward C. Seaton, on the Wey Valley Floods in Relation to Public Health. In discussing the influence of floods on health Dr. Seaton remarks that it hardly needs much argument to demonstrate their ill-effect when the dwellings of populous areas are partly submerged, and when the necessaries of life have to be provided for by the help of boats. Even floods of far less magnitude than those which occurred in Nottingham in 1876 and in Norwich last year constitute, he says, not only an acute source of discomfort for the unfortunate residents, but leave behind them the foundation of illnesses of many kinds and often of a chronic nature. Further on he observes that the extent to which ill-health arises is not defined, for there are conditions of the soil which sometimes follow floods and which are liable to become continuing causes of disease. There are, for example, the conditions of the saturation and wetness of the earth upon and near to the surface, which have long been recognised as the underlying causes of illness, either directly or indirectly, sometimes through the medium of insect life. Reference is made to the classical reports of the medical department of the Privy Council upon this subject, and also to a letter written by Dr. R. W. C. Pierce (medical officer of health of Guildford and Woking) to the River Wey Floods Association, in which he drew attention to the remarkable lessons taught by the experiences of the Fen districts of Lincolnshire and Cambridgeshire, where ague was prevalent until a great land drainage system was introduced, when the disease practically disappeared. Instances are also quoted by Dr. Seaton of the salutary effect of building houses above a certain level in districts liable to be flooded by an overflowing river. With these improvements in structure and levels the regional prevalence of phthisis has been lessened. In Leicester, again, the general death-rate has been remarkably reduced since the establishment of a system of drainage which has for some years been held up as a model for other towns similarly situated as regards their levels. Improved drainage is unquestionably an important factor in regard to rendering low-lying places in the neighbourhood of rivers healthy to live in. Much land, says Dr. Seaton, in regions of the valley of the Thames and its tributaries, which is at present uninhabitable, could in time be reclaimed by well-considered comprehensive measures having for their object the unimpeded flow of water right away from its outlet to the tidal river at Teddington Weir during times of threatened floods in its higher reaches. A well-considered scheme on the lines suggested would, in Dr. Sc [illegible] n immense boon to the co [illegible] certain parts of Surrey, [illegible] the means of removing a potent factor in disease. Further, labourers' dwellings should be planned with due regard to health requirements. Dr. Seaton considers that by sufficient drainage of low-lying, damp regions which are at present uninhabitable, these regions would be reclaimed to the public advantage.

THE CONTROL OF MASSAGE AND OTHER ESTABLISHMENTS IN LONDON.

THE Public Control Committee of the London County Council have reported to the Council as to the details of the proposals for the control of massage and similar establishments recently adopted. The subject has been thoroughly discussed in our columns from several aspects.[1] The committee stated that nursing homes were proposed to be included, but added that with regard to the great majority of nursing homes, and many establishments providing the other forms of treatment, there was no suggestion as to their being carried on in any other than a proper manner. It was sometimes alleged that nursing homes were conducted by unqualified persons or with an insufficiently qualified staff; as to this the committee was not in a position to judge. They did not consider it to be the duty of the County Council to interfere in such matters. They felt, however, that the principle of registration was the best one that could be adopted, the right of appeal to a court of summary jurisdiction being given. The report stated that special means must be taken to deal with attempts at evasion by adopting trading descriptions other than those specified by the Council. Furthermore, if the proposed legislation was to be effective severe penalties must, they concluded, be imposed, while all powers obtained ought to be exercised by a central authority. The powers proposed to be acquired by registration are very full. The premises to be registered are to comprise those used as nursing homes or for the purposes of massage or manicure or for administering curative treatment by light, electricity, or baths, or other similar treatment, but all Poor-law institutions, and such hospitals and other premises as may be later defined, are to be exempt from registration. Where the registration authority has reason to believe that the title of a business has been adopted as a cloak to the carrying on of a disorderly house, its officers having a special right of entry, subject to regulations, will proceed to action. The penalties provided are £50 and a daily penalty not exceeding £20 for a first offence, and the same maximum penalties, with or without a term of imprisonment, in respect of a second or subsequent offence. In the case of a company it is provided that proceedings may be taken against all or any of the directors as well as against the company. The committee have also proposed that—

> It shall be an offence for any person or company knowingly to advertise or print or publish an advertisement of any owner or occupier who has been struck off the Register,

a method of action which shows that the source of the evil is properly recognised. The proposals of the Public Control Committee were approved by the Council, and action will follow upon the lines indicated.

THE TRIAL OF BEILISS.

THE Justschinski trial has concluded, with a verdict of acquittal for Beiliss, the Jew accused of murdering a Christian boy for the purpose of obtaining Christian blood for ritual use. A different verdict would have been unthinkable in any civilised country save Russia. But in Russia, and in a leading university town, possessed of all the appurtenances of an advanced civilisation, the barbarous belief that such murders do take place still prevails, and until the very end of the case Beiliss's fate hung in the balance. Indeed, skilled experts seem to have been so affected by the prevailing belief as not to realise that the established medico-legal facts in the case, so far from lending support to the accusation against the accused, failed completely to substantiate any likelihood of a ritual murder. The matter is really brought to a very clear issue in a pamphlet entitled "Der Fall Justschinski,[1] Ofizielle Dokumente und private Gutachten." This pamphlet contains first the following protocols: the post-mortem record of March 2nd, 1911; the second post-mortem record of March 26th, 1912; the report of Professor J. A. Sikorski, of the University of Kieff; Protocol 61, Report of Professor Obolonsky and Prosector Tufanow. The second part consists of the opinions thereon of Professor Haberda, of Vienna; Professor Ziemke, of Kiel; Professor Lacassagne, of Lyons; and Professor Thoinot, of Paris; Mr. A. J. Pepper, Dr. Charles A. Mercier, and Dr. W. H. Willcox, of London; Professor Bleuler, of Zürich; Professor Bonhöffer, of Berlin; Professor Boedeker, of Zehlendorf; Professor A. Forel, of Zürich; Professor Meyer, of Königsberg; and Professors v. Jauregg and Obersteiner, of Vienna. None of these opinions lend any support to the theory of ritual murder put forward with circumstantial detail by Professor Sikorski in a report which is traversed in a lucid and weighty manner. From perusal of this pamphlet it seems to us quite clear that the luckless boy was not killed with any design of securing his blood for any purpose, and was not tortured. The act was probably that of a lunatic.

INACCURACY OF AMERICAN MORTALITY STATISTICS.

A STARTLING article on the inaccuracy of American mortality statistics, written by Dr. Horst Oertel, pathologist to the Russel-Sage Institute of New York, has been sent to us, extracted from a journal called the *American Underwriter*, and its lessons may not unprofitably be taken to heart by some persons in this country who justly fall under Dr. Oertel's censure as dogmatic writers on the statistics of fatal diseases without troubling to test the reliability of the data upon which their statements are founded. "It is strange," says Dr. Oertel, "that, notwithstanding much discussion about improvements in the methods of recording and interpreting these statistics, the reliability of the death certificate itself is generally accepted." He then proceeds to show that the errors and inaccuracies in the present returns of causes of death are so great that it may fairly be doubted whether deductions based on the evidence of American statistics are at all trustworthy. The majority of American death certificates, even those of the larger hospitals, which represent the best available records, are based mainly on bedside diagnosis only. The testimony of American physicians who have systematically performed necropsies appears to be to the effect that the majority of clinical diagnoses are either wrong or quite insufficient to establish the cause of death. From his own experience Dr. Oertel does not hesitate to state that even at the time of the necropsy the medical man is frequently uncertain about the character of the disease and arrives at the truth only after prolonged study. The statistics of Dr. Cabot, of Boston, are instructive in this regard. He has published the percentages of correct diagnoses of what appeared to be the most important lesions revealed by 3000 necropsies in that city, from which it appears that even in the hands of an experienced diagnostician the diagnosis of certain diseases was proved correct in the case of not more than 25 per cent. of the deaths; whilst the percentage did not exceed 75 per cent. in the case of any other fatal disease in the list. Commenting on Dr. Oertel's paper the editor justly remarks that if the actual causes from any considerable proportion of deaths have been incorrectly diagnosed, and the death certificates made out accordingly, the whole structure of a country's mortality statistics fairly totters, and the grouping of classes, ages, and ratios is necessarily subject to the most serious doubts. It is this gravest of dangers in the compilation of American mortality statistics to which Dr. Oertel directs attention, and, in our judgment, the subject is worthy of the serious attention, not of vital statisticians alone, but of all the more important medical societies, medical colleges, and hospital authorities of the country.

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[1] THE LANCET, Oct. 18th (p. 1131) and 25th (p. 1206).

[1] Berlin, R. Boll, 1913.

ALFRED RUSSEL WALLACE.

THE death of Dr. Alfred Russel Wallace occurred, at the ripe age of 90, on Friday of last week, Nov. 7th. He will for ever be remembered by his association with the great alteration in all our scientific standpoints brought about by the establishment of the modern doctrines of evolution. As is well known, Wallace enunciated the theory of natural selection at the very time when Darwin, after 20 years of solid work, had arrived at similar conclusions, though after more profound and wide-ranging investigations. The attitude of the two philosophers was marked by the greatest generosity to each other; and when the world elected, and elected quite rightly, to give to Darwin the chief credit, Wallace's acknowledgment of the justice of the verdict was complete. The statement that has been made in many places lately that the work of Wallace was put aside and that he himself was unduly neglected does not bear investigation. He was not a candidate for the Fellowship of the Royal Society until quite late in his career, but that body elected him as soon as the usual formalities were complied with, and he was the recipient of one of their most important medals. Wallace was an individual and romantic thinker, but his intuition did not always serve him as well in his attempts to solve other problems as it had when he had jumped at the correct explanation of the processes and changes in organic life. Some of his writings, while they displayed independent judgment, were not marked by the discrimination that might have been expected from so famous a man, and his attitude towards one phase of scientific medicine was unfortunate. But it would be wrong to be blind to the value of grand receptive intelligences like his, because in one or two points the conclusion which Wallace came to appears to us to be hasty. Medicine combines with the scientific world in deploring the loss of a leader, and in acknowledging the debt of the world to a pioneer in the interpretation of the universe.

OCTOBER AT HOME AND ABROAD.

OCTOBER was a very mild month, with a succession of winds from the south and south-west, bringing abundant rain, but occasional clear skies, which allowed the sun to shine for about the average number of hours for the month. October is normally the wettest month of the year in nearly all parts of this country, and generally gives at least one bad wind storm. On this occasion, however, the cyclonic systems either remained on the Atlantic or became reduced in energy on arriving over these islands, and except on some of the most exposed points of the western and northern coasts the wind seldom rose to the strength of a gale. On the ocean to the west a vast area was frequently in a very disturbed condition, some of the storms being very severe, and continuing for days. In England the thermometer was often 5° or 6° above the normal level both during the day and at night, and sometimes the divergence was greater, but as there were a few relatively cool spells, the mean for the whole period was no more than 3° or 4° above the average. At Kew, where the maximum temperature was as high as 60° or higher on 17 afternoons, the mean, 60°, exceeded the average by 4°, while the mean minimum of the night, 46°, was 3° above. At Bath, Torquay, Bournemouth, and Brighton the mean maximum was 61°, and the mean minimum also higher than at Kew, except at Bath. At Torquay and Brighton the figure was 51°, and at Bournemouth 48°. In the Midlands the mean maximum temperature was a little below 60°, and in the north of England, as represented by Harrogate and Buxton, 54°, and the mean minimum 44° or 43°. Paris was warmer than the mainland of this country during the day, recording a mean maximum of 62°, the same figure as Jersey, but at night it was colder, the mean minimum being 45°, no higher than that at Bath. At Brussels the corresponding figures were 61° and 46°, but at Berlin they were lower, the mean maximum of the day only reaching 57°, and the mean minimum of the night being as low as 42°. Over the southern regions of Europe there were few days with a lower temperature than 70°, while in southern Italy the thermometer occasionally exceeded 80°. Round about the 23rd the sheltered thermometer fell to a little below the freezing point in the Midlands and north of England, and to some degrees below it in central Ireland, but no frost was registered at Paris or Brussels, and only one, on the 26th, at Berlin. In most parts of this country there was more or less rain on at least 18 days. In the metropolitan area the total fall was about 3·5 in., exceeding the average by about 0·75 in. Bath had rather less rain, its total of 3·1 in. only exceeding the average by 0·05 in., while at Harrogate there was no more than 2·8 in. against an average half an inch greater. Along the south and south-west coasts there was, as a rule, more rain than in London. At Brighton, where as many as 20 days furnished a measurable amount, the aggregate was 4·2 in., a figure 0·7 in. more than the normal. At Bournemouth it was 3·4 in., at Torquay 3·7 in., or 0·4 in. less than the normal, and at Newquay 5·0 in., or 1·2 in. more than the normal. In the Midlands the fall generally exceeded the average, although in some localities rain was less frequent than in the south and south-west. At Nottingham there were no more than 14 days with rain, against 20 in Brighton and Torquay, but the total fall, 3·64 in., was an inch above the normal. At Buxton, where an average October gives 5·4 in., last month yielded no more than 4·6 in. On the Continent the weather was generally much less rainy than in this country. At Berlin the total fall was 0·6 in., at Brussels 1·4 in., and at Paris 1·8 in. In the southern countries there were a few heavy local falls, but the general character of the weather was dry and bright. In these islands it is now far too late for the total duration of sunshine for the year to equal the average, but last month did its best here and there to make up the deficit, although its best was not very striking. At Kew the total number of hours of bright sunshine was 97, an excess of only 3 hours on the average, but in many places the deficit grew even larger than at the end of September. At Brighton the total of 114 hours was 3 hours less than the normal, and in the Midlands and north of England the weather was mostly less bright than usual. At Nottingham the total sunshine, 76 hours, was 17 below the normal, and at Harrogate, where the figure was 67 hours, it was 28 hours less. On the extreme south-western coast the sky cleared more frequently. At Torquay the sun shone for 113 hours, about the average figure, and at Newquay for 122 hours, an excess of 11 hours on the average. Jersey was brighter than any place farther north, having the good total of 147 hours against an average of 127 hours. Absolutely sunless days were not often experienced in any part of the kingdom. At Kew there were only 4, and in the Midlands 6, 7, or 8, while on the south coast there were only 2 or 3, and at Newquay not one. At Jersey, however, there were 3 sunless days. At Kew the brightest day was the 31st, when the sun shone during seven hours, but over the kingdom generally the maximum amount of sunshine was recorded on various dates—mostly after the 15th. Some places on the south and south-west coasts had between 8 and 9 hours on one day, and a few between 9 and 10 hours. Compared with the south and south-west of these islands and Jersey, Paris was dull. On 5 days the sky was overcast throughout, and the aggregate amount of sunshine for the month was no more than 106 hours, or 41 hours less than at Jersey and 16 less than at Newquay.

THE ANTHRAX COMMITTEE.

AN opportune announcement was made at the close of last week by the Home Secretary that he has appointed a committee of nine to inquire into the dangers from infection by anthrax in the various processes incidental to the wool and hair industry, and to consider and report upon any amendments to the existing regulations which may be desirable. The chairman is Sir Thomas Whittaker, M.P., and the committee contains representatives of the more important interests affected, such as the Bradford Chamber of Commerce, the Bradford Trades and Labour Council, the National Union of Woolsorters, and the Bradford and District Wool Top and Noil Warehousemen's Union. The medical and scientific representation although small, is extremely efficient. It is certain that with Professor F. W. Eurich, of Leeds University, and Dr. T. M. Legge, of the Home Office, upon the committee this side of the inquiry will receive full attention. Professor Eurich, as bacteriologist to the Bradford Anthrax Investigation Board and specialist medical referee to the Home Office for anthrax, has identified himself with the subject under investigation; while Dr. Legge, as one of His Majesty's medical inspectors of factories, has exceptional experience of industrial diseases, and chose as the subject of his Milroy lecture before the Royal College of Physicians of London, in 1905, Industrial Anthrax and Serum Treatment. The secretary to the committee is Mr. G. E. Duckering, of the Home Office, and communications relating to the subject of the inquiry may be addressed to him at 72, Bridge-street, Manchester.

LARGE AMOUNT OF UREA IN THE PERICARDIAL EFFUSION IN BRIGHT'S DISEASE.

THOUGH pericarditis is a well-recognised complication of Bright's disease, the connexion between the two is still disputed. Some writers attribute the pericarditis to toxæmia; others to a superadded infection, usually to a pneumococcic one. In a recent thesis M. André Weill has given the results of the examination of 11 cases. In 2 there was less than 2 grammes of urea in the pericardial fluid, in 6 there were between 2 and 3 grammes, and in 3 more than 3 grammes. Bacteriological examination gave the following results. In 4 cases it was negative; in 2 colonies of the colon bacillus were obtained but the organism was not agglutinated by serum obtained from the patient during life—evidently the infection was agonal; in 1 case there was found a streptococcus and in 4 cases the pneumococcus. At a meeting of the Société Médicale des Hôpitaux of Paris on Oct. 24th M. E. de Massary and M. P. Chatelin reported the following case. A woman, aged 33 years, was admitted into hospital on March 3rd, 1913, complaining of general weakness, cramps in the lower limbs for two months, and dyspnœa. She said she had never previously been ill and had five healthy children. However, two premature labours occurred in 1912, the second at three months on Dec. 27th. Since the end of October she felt fatigued and suffered from pains in the calves and thighs and lost appetite. The miscarriage accentuated this condition. In January, 1913, the legs became a little swollen and the urine was examined and found to contain a large quantity of albumin. She was put on a milk diet but she did not improve, vomiting occurred four or five times a week, and she lost flesh. On examination she was thin, sallow, and pale. The respiration was shallow and irregular (20 to 22 per minute). There was a little œdema, localised exclusively behind the malleoli. The liver was enlarged, and there was a history of alcoholism. At the outer base of the left lung there was slight dulness and crepitation was heard. Some thick mucus was expectorated. The cardiac dulness was enlarged transversely and the apex beat was in the seventh space. A little above it a thrill was felt. At two foci—in the fourth and fifth left intercostal spaces and in the second left intercostal space—marked friction was heard in the form of a rough double sound, which was not transmitted to other parts of the chest and did not exactly coincide with the cardiac pulsations. The pulse was 100, strong, and a little irregular. The urine contained 8·64 grammes of urea and 6·25 grammes of albumin per litre; 500 grammes were passed daily. The arterial tension was 22/14 with Pachon's instrument. The blood serum contained 4·2 grammes of urea per litre. From March 11th to 15th the amount of urine in the 24 hours fell to 300–350 grammes, and the patient vomited and could retain nothing on her stomach. Exploratory puncture at the left base yielded serous fluid. She became somnolent and at times the right eye showed external strabismus. The breath developed an ammoniacal odour. The pericardial friction diminished, but the dulness remained about the same. On March 22nd general convulsions occurred, lasting 10 minutes, during which urine escaped. In the evening she became comatose. Death occurred on the following morning. Soon afterwards 40 to 50 grammes of hæmorrhagic fluid were withdrawn with antiseptic precautions from the pericardium. It contained numerous red corpuscles, some white ones, and patches of desquamated cells. Examination of a film obtained after centrifuging and staining with phenolised thionin did not show any microbes. Also a culture on the serum of the rabbit was negative, as was also inoculation of a mouse. The pericardial fluid contained 6·4 grammes of urea per litre. At the necropsy 90 grammes of hæmorrhagic fluid was found in the pericardium, on which there was a fibrinous deposit. The kidneys were granular and much atrophied; the right weighed 80 and the left 40 grammes. The liver weighed 1300 grammes and was soft and fatty. The lungs were œdematous, and at the left base the tissue was a little more dense and was congested. Sections of the pericardium were examined microscopically for microbes without result. Evidently the pericarditis was due to retention of urea in the system and its accumulation in the pericardium.

ACUTE TYPHLITIS.

SINCE the discovery of appendicitis the term typhlitis has almost disappeared from medical literature, and it is generally held that the cases described by the older writers under this designation were examples of appendicitis. That they were not entirely wrong is shown by the following case of primary acute typhlitis reported in the *Australian Medical Journal* of Sept. 27th by Dr. Geoffrey Owen, who also refers to a very similar case previously recorded in the same journal. He was urgently summoned to a woman, aged 25 years, who had been well till two days previously, when she was seized with abdominal pain and vomiting. At first the pain was referred to the middle of the abdomen, but after 24 hours it became localised in the right lower quadrant. At the end of 12 hours the vomiting ceased. There was no history of previous illness except slight anæmia. On examination she did not look ill. The temperature was 99·2° F., the pulse 88, and the tongue clean. Abdominal respiration was good, but there were definite tenderness and rigidity in the right lower abdomen. The bowels had acted after the administration of castor oil. Acute appendicitis was diagnosed, and though there were no urgent symptoms an operation was advised and was performed next morning. Slightly turbid fluid was found in the peritoneal cavity. Immediately under the peritoneum a mass of omentum was encountered, and on attempting to unravel this it was found to be intimately connected with the bowel and the incision had to be considerably enlarged to make out the condition. The cæcum and part of the ascending colon were found surrounded with omentum, which was glued to them by recent delicate adhesions. The condition of the bowel was remarkable. The cæcum was studded all over with injected vessels, which extended well up the ascending colon. The appendix lay tucked behind the cæcum and was not nearly so injected as the colon. It presented no other sign of disease. The omentum which was wrapped round the large bowel also presented the same curious appearance of acute injection, and in addition was very friable, tearing on the least touch to separate the adhesions. Its terminal part formed œdematous masses. This looked so rotten that it was deemed advisable to ligature off and remove several large pieces. The appendix was removed in the usual manner. Recovery was uneventful. Dr. Owen concludes that the case was one of primary acute typhlitis in which the appendix was only involved in the general process and was not the primary seat of the disease.

MEDICAL TRANSPORT WITH NAVIES.

THE October number of the *Military Surgeon*, an interesting Chicago publication, is mainly filled with articles on the management of the wounded in naval actions. Director-General C. F. Stokes, of the United States Navy, has worked up a scheme which details a "medical transport," a ship of 10,000 tons or more, to each division of the fleet, a division including four battleships with destroyers and auxiliaries. After a battle the medical transport arrives and sends to each of its battleships, or to its destroyers, a section of its boats with a dozen medical officers and sick-berth stewards and four dozen sick-berth attendants. They all get on board the battleship of whatever sort it may be, give what additional attention is required to the wounded, and move these into the boats and take them to the medical transport for conveyance to the base. This scheme was obviously suggested by the field ambulances or bearer companies of the army. It is too elaborate to be of use at sea. In bad weather Director-General Stokes proposes to transfer wounded in cots along an aerial railway, sliding the cots on a wire hawser stretched from the stern of their ship to the bow of the medical transport. A similar method was tried in our navy for coaling ships at sea, but did not give satisfaction. The first essential for the satisfactory care of the wounded in a naval action—namely, that their fleet must be brought out victorious—is forgotten. Extemporised measures will secure a higher percentage of recoveries for the victors than the most elaborately prepared plans can hope to achieve for the vanquished. So it is a serious matter to propose to make arrangements to help the wounded which shall in any way hamper the fighting efficiency of their ship or squadron. Surgeon J. L. Pleadwell's paper on the Relationship of the Hospital Ship to the Fleet in Time of War is most instructive in this connexion. The problems of the medical officer in charge, although so tangled, are very clearly stated and resolved. This thoughtful article should be read by every naval medical officer. A similar remark applies to Captain Lazell's paper on Mental Hygiene, and the improvement of the rank and file in army and navy. The Association of Military Surgeons of the United States, including Army, Navy, and Public Health Services, held its annual meeting at Denver, Colorado, in September, under the presidency of (Fleet) Surgeon W. C. Braisted, United States Navy; and Surgeon-General W. H. Norman, representing the Royal Navy and

Royal Army Medical Services, received a hearty welcome.

A LANTERN lecture will be delivered before the Fellows of the Royal Society of Medicine, in the Robert Barnes Hall, 1, Wimpole-street, on Thursday, Nov. 20th, at 5 o'clock, entitled "The Leprosy Problem in the British Empire, illustrating the Clinical and Bacteriological Aspects of the Disease: with Remarks on the Clinical Aspects of Syphilis among Natives," by Dr. H. Bayon, Research Bacteriologist to the Government of the Union of South Africa.

MEDICINE AND THE LAW.

A Death Certificate Given by an Unqualified Person.

AT the recent Gloucester assizes a prisoner charged under the name of Jose Manuel de Freitas was indicted for having given a certificate of the cause of death not being a medical practitioner, for fraudulent conversion of money entrusted to him for the purchase of surgical instruments by the Cinderford and District Friendly and Medical Aid Association, and also for having obtained £37 by false pretences from the association. It was stated that the prisoner, who pleaded guilty, obtained the post of medical officer of the association mentioned by replying to an advertisement, and carried out his duties for three weeks without complaint from his patients. The association is not to be congratulated upon the success of its efforts to obtain a medical attendant for its members, and it would be interesting to know what steps it took to ascertain the qualifications of the man whom it engaged; for the prisoner, in addition to the fact of his not being a medical practitioner, although he bore, or had assumed, the surname of a gentleman on the Register, was given a very bad character by a detective from Scotland Yard. He was described as a man who lived by fraud and on the immoral earnings of women; he had defrauded a lady of over £1300 and a gentleman of £100, and had also carried on unqualified practice in several localities. He was sentenced by Mr. Justice Coleridge to 10 months' hard labour, which does not seem an excessive penalty.

An Attempt to Blackmail a Medical Man.

At the recent sessions of the Central Criminal Court a man named Gates, a picture framer, 21 years of age, was convicted and sentenced to three years' penal servitude upon an indictment charging him with sending to Dr. W. J. Bell a letter demanding money from him with menaces and without any reasonable or probable cause. The prosecutor, a medical man practising at Peckham, and being upon the panel under the Insurance Acts, attended a girl named Wright at his surgery, where he saw her on four occasions, and afterwards at her father's house, where she was in bed under his orders, and where he paid her six visits. This was before April 28th, after which date and before July 31st the patient paid 23 visits to the prosecutor's surgery. Early in August the prisoner had banns of marriage between himself and Wright published at a local church and fixed the marriage for August 25th. On August 12th a letter was received by Dr. Bell accusing him of improper conduct towards Wright, and threatening that an action claiming £2000 damages would be started unless a settlement by payment of £100 should be made. Dr. Bell wisely took the only right course with promptitude, communicating immediately with his solicitors, and the police arrested Gates and Wright. The latter pleaded guilty, and stated through counsel that she in fact wrote the letter, but that Gates was responsible for the whole of its contents, that there was not a particle of truth in the allegations made in it, but that every suggestion in it came from Gates who had coerced her into copying the document. She was bound over to come up for judgment when called upon. Dr. Bell is to be congratulated upon the conclusion of an episode which must have been a very painful one to him, and upon the successful and complete repudiation of an odious charge which exemplifies the dangers to which the medical practitioner is frequently exposed in the exercise of his profession. It may be mentioned that in his opening speech, after describing the number of attendances required by the illness of Wright (who had suffered from rheumatism), Mr. Bodkin, who appeared for the prosecution, called attention to the thoroughness of the treatment accorded to her under the Insurance Acts.

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

Treatment of Tuberculosis.

FOR four hours on Nov. 4th the Council debated the Public Health Committee's reports which appeared in THE LANCET of Oct. 25th, p. 1205, and Nov. 8th, p. 1332, with regard to provision for uninsured persons suffering from tuberculosis. Discussion first took place with regard to the recommendation, already published in full, as to the financial basis of the provision for treatment of uninsured persons.

After some debate on the general question, in the course of which it was pointed out that the formulation of a comprehensive scheme for London had been under consideration by the Council ever since the Insurance Act was passed in December, 1911, the following motion was proposed by Mr. RAWSON:—

> That the recommendation be referred back to the committee with instructions to ascertain whether the metropolitan borough councils desire local dispensaries to be under the sole control of the borough councils or the London County Council.

An amendment that steps be taken to arrange another conference with the Local Government Board was lost by 45 votes to 32, and the original motion was then put to the vote and defeated.

Dispensary Provision for Uninsured Persons.

Mr. A. L. LEON moved an amendment to the Public Health Committee's recommendation in the following terms:—

> That the Council, whilst regretting that a scheme has not been made earlier, is of opinion that no scheme for the treatment of tuberculosis in London can be comprehensive or satisfactory while the Council is prevented from dealing with the provision of dispensaries by the premature action of the Local Government Board in approving partial and local schemes in London, and that the Board be asked to cancel all consents given for the erection of dispensaries, and to make an Order enabling the Council itself to provide and administer (itself or through borough councils) all dispensaries required, one-half of the expense to be defrayed out of the county fund as expenditure incurred for general county purposes and one-half to be defrayed by the Government.

Mr. Leon advised the Council, since the Local

Government Board had taken a line which deprived the Council of authority, to wash its hands of dispensaries schemes and confine itself to the provision of sanatoriums. It was a matter for keen regret that the Local Government Board should have allowed a number of dispensaries to be started in different parts of the metropolis without regard to the needs of London as a whole. It would be impossible to coördinate and make available the highest medical skill and knowledge existing if the borough councils were to be the units for dealing with the tuberculosis question. The Public Health Committee had conferred with the authorities of 12 large hospitals; these bodies were very anxious to fall in with a scheme, but they made it an essential that the Council should be the one centralising authority for London. In some boroughs there were no hospitals, and there were cases where a borough council had refused to act with a hospital and *vice versâ*.

Mr. F. BRIANT, who seconded, said he did not wish to be unduly severe on the borough councils, but no more serious blow could be struck at a comprehensive policy than to leave hospitals out of a tuberculosis scheme. The hospitals with medical schools—in fact, the whole of the teaching hospitals—had passed a resolution in which they had emphasised the importance of the administration being in the hands of the London County Council. If the borough councils declined to have anything to do with the hospitals very unsatisfactory results would be obtained. Of 730 people treated at St. Thomas's Hospital dispensary 340 required special surgical treatment, and this was not available at an ordinary tuberculosis dispensary.

Mr. J. A. DAWES, M.P., Chairman of the London Insurance Committee, said that the time for moving the amendment had passed; six months ago it might have been acceptable. The Council ought to have been in possession of the views of the Local Government Board at a much earlier date; the Board had taken a most unfortunate line. Rather than have any more delay the Council had better pass this scheme and try to induce the borough councils to adopt some suitable measures for their respective areas. Nothing could be more unfortunate than to have 29 areas each in a ring fence, but that was what matters had come to. He did not think the hospitals made it an essential condition that the County Council should be the authority; they would try to make the best of a bad job. He did not like this scheme, but in the interests of tuberculous persons it should be adopted. The County Council was still the authority for residential purposes, and this might give it some power; the monetary control was just worth having.

Mr. O. E. WARBURG hoped that it would be possible to secure the coöperation of the hospitals, and that the County Council would be able to maintain a proper balance between dispensaries, hospitals, and local medical officers of health.

The amendment was lost by 34 votes to 20.

Financial Questions.

Debate then took place on the question of equalising the cost of tuberculosis treatment throughout the metropolis so that boroughs where the phthisis rate was high and was accompanied, as would usually be the case, by a low rateable value should receive financial assistance. Amendments to secure this were defeated by considerable majorities.

Mr. GILBERT JOHNSTONE moved an amendment that in view of the fact that the London Insurance Committee had resolved to make representations to the Treasury as to the inadequacy of the sums available for sanatorium benefit in respect of insured persons the Council was of the opinion that no comprehensive scheme could be carried out adequately unless provision were made for meeting the full cost of the treatment of insured persons out of the Insurance Fund or by the Government.

Mr. DAWES pointed out that the only deficit as to which the Insurance Committee made representations was in respect of residential treatment, and the shortage was due to the fact that the British Medical Association had been able to secure the allocation of 6*d.* per head to the doctors for domiciliary treatment. There were sufficient funds to provide for dispensary treatment.

The amendment was carried by 42 votes to 22.

The recommendation as amended was then agreed to in the following form:—

That any comprehensive scheme for dealing with the treatment of tuberculosis in London shall provide for a contribution being made by the Council from year to year towards so much of the cost of the dispensary treatment of uninsured persons in the City of London and each metropolitan borough as would otherwise fall on the local rate, after taking into account the promised grant from the Imperial exchequer, provided that such contribution (1) shall not exceed 50 per cent. of such cost; (2) shall be made in the first instance from a date to be fixed hereafter by the Council; and (3) shall be conditional upon the Council being satisfied with the local scheme in force in such area and upon the arrangements and the expenditure being annually submitted to and approved by the Council. Whilst by the above proposals ample funds will be provided to meet the cost of dispensary treatment for uninsured persons, in view of the fact that the London Insurance Committee has resolved that representations shall be made to the Treasury as to the inadequacy of the sums available for defraying the expenses of sanatorium benefit in respect of insured persons suffering from tuberculosis in the county of London, the Council is of opinion that no comprehensive scheme can be carried out adequately unless provision is made for meeting the full cost of the treatment of insured persons out of the Insurance Fund or by the Government.

Residential Accommodation for Uninsured Persons.

On the report of the Public Health Committee with regard to residential accommodation for uninsured persons and its recommendation that the Council should make arrangements with the Metropolitan Asylums Board, with hospitals and with sanatoriums without the Council owning or managing institutions (see THE LANCET, Nov. 8th, p. 1332).

Major LEVITA moved an amendment to the effect that the Council should not act as a financial intermediary, but should leave it to local health authorities, the Asylums Board, and other bodies to deal with tuberculosis. He criticised the proposed arrangements on the ground that at every stage of the disease except one the borough councils were to deal with tuberculosis; the County Council which had lost control of the scheme as a whole was to come in and deal with one small section of the problem. It would be irritating to the hospitals to find that as long as a man went to a dispensary he was under one set of authorities, but when the disease needed sanatorium treatment he came under another set of authorities. He did not know that the borough councils, which were the proper authorities to deal with health matters, had asked the County Council to make arrangements for residential treatment. It was estimated that 400 beds were required for uninsured persons; the hospitals were not full, and he was not sure that existing institutions could not deal with residential treatment now that the Council at the request of the Insurance Committee had provided for insured persons.

The amendment was lost, only five voting in favour.

The debate continued on the main question on the line that the County Council should not delegate to the Asylums Board the provision of accommodation. Mr. DAWES said that although the Asylums Board had done its best to help the Insurance Committee out of a serious difficulty, the institutions it had provided were not entirely suitable, because it had none of the smaller sanatoriums required. As a matter of fact, the Asylums Board had no more institutions suitable for dealing with tuberculosis than had the County Council.

The committee's recommendation was then agreed to.

The Mount Vernon Hospital, Hampstead.

In regard to the views of the London Insurance Committee and of the Public Health Committee as to the acquisition of this institution (see last issue, p. 1333), Mr. L. COURTAULD, a medical member of the Council, moved an amendment to omit an expression of opinion in favour of the purchase of the institution or a communication to the Asylums Board on the subject so that the motion would read:—

> That the Council is not prepared to purchase the Mount Vernon Hospital, Hampstead.

Mr. Courtauld said the institution was not suitable for any other purpose than hospital treatment of tuberculosis, and it would be unwise, if not impossible, for the Council to enter upon the conduct of a hospital. The institution was unsuited for a sanatorium because it had only 2½ acres of ground and so did not provide opportunities for graduated exercise and labour. It would be too miserable and depressing a place to be used as a home for advanced cases; these should be put in small cottage hospitals rather than in a big institution in which it would be difficult to persuade them to stay. As to the use of Mount Vernon for hospital cases, this would be undesirable because when things had settled down it would probably be found that there was sufficient provision in London for hospital patients. There were vacancies for male patients in the wards of Brompton Hospital, a thing that had not happened for a very long time. The majority of the large teaching hospitals were willing and even anxious to extend the accommodation in their wards for hospital cases. They feared losing material for teaching. The hospitals were the obvious places to which these cases should go, and it was not incumbent on the County Council either to acquire or advise any other body to acquire such an institution as Mount Vernon for the reception of hospital patients. These were difficult and complicated cases requiring special forms of diagnosis and treatment such as could not be obtained in the ordinary sanatorium but only in the large special fully equipped hospitals. It was one thing for the Council to manage a sanatorium which only required a medical superintendent and one or two assistants, but quite another thing to run a special hospital requiring a specialist staff and a large specialist organisation which the Council would have very great difficulty in bringing together, at any rate until municipalisation or nationalisation of hospitals was very much nearer.

Mr. DAWES said that the London Insurance Committee was favoured by having seven medical members who unanimously urged on a deputation to the Public Health Committee that Mount Vernon should be retained as a hospital to accommodate certain classes of cases. With all respect, their opinion should carry more weight than the single opinion of Mr. Courtauld. That large and influential body of medical opinion was very strongly in favour of the acquisition of Mount Vernon. This was one of the four specialist hospitals of London and if it were closed there would be a shortage of accommodation. The Insurance Committee thought this building would be specially valuable because it would be easy for friends to visit patients there.

The amendment was carried by 52 votes to 30, and the recommendation of the Public Health Committee as amended was then approved.

Administration of the Mental Deficiency Act.

The Council debated at considerable length a proposal by the General Purposes Committee that for the purpose of administering the Mental Deficiency Act, 1913, the Asylums Committee be abolished as a statutory committee, and that a new committee be appointed to coördinate the asylums work and the care of the mentally defective under one administration. Persons having special knowledge and experience of the care of defectives would be coöpted, and the Council would have direct control of expenditure, which it has not at present in the case of the Asylums Committee. Members of the Asylums Committee, without distinction of party, protested against the proposal. Several amendments aiming at postponement having been rejected the Council decided by 69 votes to 48 to proceed with the scheme.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Coventry.—The annual reports of medical officers of health are often used to express the individual views of their authors on administrative and scientific questions relating to public health, and this feature adds much value to an annual report. It is, however, sometimes prudent to recollect that these reports are made in the first instance for [illegible] the members of

provision for cases of infectious disease. We meet there the statement in regard to small-pox "that by experience we have learnt that small-pox is, *par excellence*, the disease which can be entirely controlled by isolation and disinfection." Dr. Snell presumably takes vaccination for granted when he makes no mention of it, but it would be better to explain to the layman that the truth of his proposition rests on the necessity of protection by vaccination, or by previous small-pox, of the staff of the hospital, the disinfecting staff, and the contacts of the patient. On the other hand, in referring to plague, Dr. Snell states that "the mere isolation of the patient and disinfection of premises can only be a secondary means of combating infection; the extermination of the rat is the real desideratum." This is an arguable opinion, but when human plague has been introduced into this country, as has now happened on several occasions, it has not necessarily been *rat-borne*, and in the suppression of human plague, should it occur in an English city like Coventry, primary reliance ought to be placed on isolation of the human case and not on attempts to destroy rats. The portion of the report to which we refer sets out with some force objections to "older empirical methods" of isolation and disinfection, and represents that in view of recent research their use must be directed by an intelligent knowledge of individual diseases. This unimpeachable proposition has always lain at the root of epidemiology, a science which is not quite as new as might be inferred from the context of the report. In consequence of the occurrence of some serious cases of ophthalmia neonatorum in Coventry, Dr. Snell, after consultation with Dr. T. Harrison Butler, now endeavours to secure that newly born children, whether they show signs of eye inflammation or not, should have their eyes treated with a 5 per cent. solution of protargol. All practising midwives have been circularised on the subject, and informed that the solution can be obtained from any chemist at a cost of a few pence per ounce. Dr. Snell has reason to think that most of the midwives now adopt this procedure.

Metropolitan Borough of Poplar.—Mr. F. W. Alexander's report illustrates the great variety of useful public work done by his department in this large area of Eastern London. In Poplar great use is made, for disinfecting purposes, of "electrolytic fluid" produced by the electrolysis of a saturated solution of magnesium chloride, to which salt and caustic soda have been added. The cost of production in Poplar is just under £2 per 1000 gallons, and the fluid is used for all ordinary purposes of fluid disinfection, including the cleansing of school premises, and, by a special contrivance, for the treatment of the water in the public swimming baths. The effective and cheap purification of swimming bath water is a most desirable practice. It is said to be adopted in Poplar not with the idea of rendering periodic changes of the water unnecessary, but to keep the bath water fresh and free from harmful organisms all the time it is in use.[1] Mr. Alexander claims, with the support of a committee on the purification of swimming baths which was appointed by the Royal Sanitary Institute, that by supplying one part of free chlorine to every 2 or 3 million parts of water, "not only is the water sterilised or deprived of all organised living molecules, but it is kept sweet and free from odour, and there is no tendency in the water to the deposition of slimy sediments on the floor of the pond." A certain amount of slimy matter collects on the water, but this is readily removed with a swab by the attendant. The "cleansing" of verminous persons is a matter which is often too little considered; there are few operations more useful, and it is satisfactory to find that the borough cleansing station was utilised for over 300 inmates of common lodging-houses in 1912. Some of these came from common lodging-houses outside the borough, the London County Council having arranged for a payment to the borough of 1*s.* per person in such cases. Mr. Alexander publishes a letter from the Local Government Board on the subject of notification of ophthalmia neonatorum, which makes it clear that the official recognition of this term is not limited to purulent ophthalmia caused by the gonococcus, but includes all cases of purulent eye discharge caused by other organisms, when these discharges occur during the first few days after birth. An important prosecution under Section 47 of the Public Health (London) Act took place during the year, which resulted in a decision which overruled a defence that a limited company is immune from prosecution for selling unsound food or exposing it for sale. The decision, however, was on other grounds given against the borough council, which brought the action, not against the retailer of unsound goods, who had surrendered them to the sanitary authority, but against the wholesale dealer from whom the unsound goods had been obtained. The borough council has made representations to the Local Government Board urging that the Public Health Acts should be amended so as to protect the public against the sale of unsound food by wholesale vendors.

Borough of Macclesfield.—In this industrial town, which has a population of about 35,000, and in 1912 a birth-rate of 20·1 per 1000, the rate of infantile mortality is usually high, and last year represented 115 per 1000 births. 37 per cent. of these infantile deaths were attributed to prematurity and congenital debility and defects, and Mr. J. H. Marsh states that the majority of the mothers of these infants had previously had abortions, miscarriages, or premature births, and that about half of them suffered from marked ill-health and poor physique. He considers that further reduction in the infantile mortality rate requires to be made by means of much greater future attention to ante-natal conditions, especially those of underfeeding and overwork. Cleanly surroundings of working-class homes, it is well known, have a marked effect on the epidemic diarrhœa of infants, and in this relation Mr. Marsh gives a useful caution against the conclusion that the replacement of outside privy-ashpits by water-closets is all that is required. The dry dust in such cases is often put into portable bins, with loose covers or none, which are left standing in the backyard, overfull and spilling their contents. Often scavengers cannot get on to the premises at the time of their regular visit, and thus the accumulations are increased. Mr. Marsh's demand that dustbins in the centre of the town should be emptied at least twice a week in the summer months and not less than once a week during the rest of the year seems in no way excessive. Although a high degree of fly prevalence is not necessarily accompanied by a high diarrhœal fatality, there are very strong grounds for associating the two occurrences, and high diarrhœa rates would hardly be surprising in the neighbourhood of some of the large uncovered middens of horse manure in the centre of the town, which Mr. Marsh describes as forming a prolific breeding-ground for these carriers of filth into the homes and food of the people.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8687 births and 4561 deaths were registered during the week ended Saturday, Nov. 8th. The annual rate of mortality in these towns, which had been 13·6, 13·1, and 13·9 per 1000 in the three preceding weeks, declined to 13·3 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 13·6 per 1000, which was equal to the rate recorded in London during the same period. Among the several towns the death-rate last week ranged from 4·8 in Gillingham, 6·8 in Oxford, 7·6 in Willesden, 7·7 in Newport (Mon.), and 7·9 in Aberdare, to 18·8 in Middlesbrough, 18·9 in Stockton-on-Tees, 20·1 in Great Yarmouth, 20·2 in Dudley, and 24·6 in Barnsley.

The 4561 deaths from all causes were 193 fewer than the number in the previous week, and included 435 which were referred to the principal epidemic diseases, against numbers declining from 925 to 509 in the four preceding weeks. Of these 435 deaths, 261 resulted from infantile diarrhœal diseases, 46 from whooping-cough, 46 from diphtheria, 34 from scarlet fever, 30 from measles, and 18 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3, against 1·6 and 1·5 per 1000 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily decreased from 769 to 322 in the four preceding weeks, further declined to 261 last week; of this number 68 were registered in London, 16 in Manchester, 12 in Liverpool, 10 in Birmingham, 9 in Stoke-on-Trent, and 8 in Sheffield. The deaths referred to whooping-cough, which had been 32, 27, and 45 in the three preceding weeks, were 46 last week, and included 11 in London, 5 in Liverpool, 4 in Manchester, and 3 in Birmingham. The fatal cases of diphtheria, which had been 49, 38, and 51 in the three preceding weeks, fell to 46 last week; 5 deaths occurred in London, 4 in Leeds, 3 in Birmingham, and 2 each in Edmonton, Grimsby, Bolton, and Rhondda. The deaths attributed to scarlet fever, which had been 16, 24, and 24 in the three preceding weeks, further rose to 34 last week, and included 6 in Salford, 3 in Warrington, 3 in Sheffield, and 2 each in Birmingham, Liverpool, and Manchester. The deaths referred to measles, which had been 25, 27, and 49 in the three preceding weeks, declined to 30 last week; 6 deaths were registered in Liverpool, 3 in London, 3 in Stoke-on-Trent, 3 in Sheffield, and 2 each in Norwich, Birmingham, and Stockport. The fatal cases of enteric fever, which had been 20, 13, and 18 in the three preceding weeks, were again 18 last week, and included 3 in London,

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[1] THE LANCET, March 15th, 1913, p. 770.

3 in Wigan, and 2 each in Portsmouth, Bristol, and Rhondda. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospital, which had steadily risen from 2112 to 3580 in the nine preceding weeks, had further increased to 3731 on Saturday last; 619 new cases were admitted during the week, against 575, 530, and 534 in the three preceding weeks. These hospitals also contained on Saturday last 1192 cases of diphtheria, 167 of whooping-cough, 80 of enteric fever, and 60 of measles, but not one of small-pox. The 1126 deaths from all causes in London were 104 fewer than the number in the previous week, and were equal to an annual death-rate of 13·0 per 1000. The deaths referred to diseases of the respiratory system, which had been 151, 178, and 207 in the three preceding weeks, slightly declined to 205 last week, and were 21 below the number recorded in the corresponding week of last year.

Of the 4561 deaths from all causes in the 96 towns, 176 were attributed to different forms of violence and 353 were the subject of coroners' inquests. The causes of 28, or 0 6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in London and in its 14 suburban districts, in Manchester, Sheffield, Leeds, Bristol, Bradford, Hull, and in 55 other smaller towns. Of the 28 uncertified causes of death, 7 were recorded in Birmingham, 2 in Grimsby, and 2 in Rhondda.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1034 births and 608 deaths were registered during the week ended Saturday, Nov. 8th. The annual rate of mortality in these towns, which had been 13 9, 14·0, and 14·7 per 1000 in the three preceding weeks, declined to 14·0 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 14·3, against 13 6 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rate last week ranged from 5·4 in Hamilton, 6·0 in Kilmarnock, and 6·1 in Clydebank, to 15·3 in Edinburgh, 15·6 in Coatbridge, and 17·9 in Dundee

The 608 deaths from all causes were 27 fewer than the number in the previous week, and included 55 which were referred to the principal epidemic diseases, against 62 and 82 in the two preceding weeks. Of these 55 deaths, 19 resulted from infantile diarrhœal diseases, 11 from measles, 11 from diphtheria, 10 from scarlet fever, and 4 from whooping-cough, but not one from enteric fever or from small-pox. These 55 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·3 per 1000, which coincided with the rate in the 96 large English towns. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 29, 19, and 34 in the three preceding weeks, declined to 19 last week; of this number 11 were registered in Glasgow and 4 in Edinburgh. The deaths referred to measles, which had been 14, 12, and 17 in the three preceding weeks, fell to 11 last week, of which 5 were recorded in Glasgow and 2 in Edinburgh. The fatal cases of diphtheria, which had been 8, 11, and 11 in the three preceding weeks, were again 11 last week, and comprised 5 in Glasgow, 3 in Aberdeen, 2 in Greenock, and 1 in Dundee. The deaths attributed to scarlet fever, which had been 13, 11, and 14 in the three preceding weeks, declined to 10 last week, of which 4 occurred in Glasgow. The 4 deaths referred to whooping-cough were slightly below the average in the earlier weeks of the quarter.

The deaths referred to diseases of the respiratory system, which had been 80, 92, and 99 in the three preceding weeks, declined to 84 in the week under notice; 29 deaths were attributed to different forms of violence, against 18 and 32 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 595 births and 404 deaths were registered during the week ended Saturday, Nov. 8th. The annual rate of mortality in these towns, which had been 16·0, 17·8, and 17·2 per 1000 in the three preceding weeks, rose to 17·6 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 17·3 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·6, while in the 16 Scotch towns it was equal to 14·3 per 1000. The annual death-rate last week was equal to 19·4 in Dublin (against 13·0 in London and 14·6 in Glasgow), 17·5 in Belfast, 18·4 in Cork, 21·6 in Londonderry, 21·7 in Limerick, and 20·9 in Waterford, while in the 21 remaining smaller towns the mean death-rate did not exceed 12 0 per 1000.

The 404 deaths from all causes were 9 in excess of the number in the previous week, and included 34 which were referred to the principal epidemic diseases, against numbers steadily declining from 132 to 41 in the eight preceding weeks. Of these 34 deaths, 16 resulted from infantile diarrhœal diseases, 8 from scarlet fever, 5 from whooping-cough, 3 from measles, 1 from enteric fever, and 1 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·5 per 1000, against 1·3 in the 96 large English towns and in the 16 Scotch towns. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily decreased from 111 to 27 in the eight preceding weeks, further declined to 16 last week, and included 7 in Dublin, 3 in Belfast, and 2 in Kilkenny. The deaths referred to scarlet fever, which had been 4, 9, and 5 in the three preceding weeks, rose to 8 last week, and comprised 7 in Belfast and 1 in Dublin. Of the 5 fatal cases of whooping-cough, which were slightly in excess of the average in the earlier weeks of the quarter, 3 occurred in Galway. The 3 deaths attributed to measles were equal to the average in the three preceding weeks, and comprised 2 in Dublin and 1 in Londonderry. The death from enteric fever occurred in Belfast, and that from diphtheria in Dublin.

The deaths referred to diseases of the respiratory organs, which had been 48, 53, and 61 in the three preceding weeks, further rose to 69 in the week under notice. Of the 404 deaths from all causes, 127, or 31 per cent., occurred in public institutions, and 9 resulted from various forms of violence. The causes of 13, or 3 2 per cent., of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death did not exceed 0·6 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: E. G. E. O'Leary to the *Invincible*; and H. Spicer to the *Indefatigable*. Surgeons: S. Punch to the *Indefatigable*; and E. Moxon-Browne to the *Tamar*, additional, for Hong-Kong Hospital, and to the *Triumph*, additional, for

Henry, George Foster Braithwaite Page, Alexander John Patterson, William Agar Scholefield Duck, Frederick Cecil Wright, Bernard Edward Patrick Sayers, David Greig Arthur, Alexander Simpson, Henry Ellis Yeo White, Michael Meehan, Devonshire Penrose Hawkes Pearson, Ivor Stanley Gabe, and Arthur John Tozer (dated April 11th, 1913).

ROYAL ARMY MEDICAL CORPS.

Major Edmund P. Hewitt is placed temporarily on the half-pay list on account of ill-health (dated Nov. 7th, 1913).

Colonel J. Maher has relinquished charge of the Queen Alexandra Military Hospital and taken up duty in the Gibraltar Command as Assistant Director of Medical Services.

Lieutenant-Colonel J. J. Gerrard, senior medical officer in the Sierra Leone Protectorate, has arrived home for duty from West Africa. Lieutenant-Colonel H. N. Thompson, D.S O., has been appointed to the Scottish Command. Lieutenant-Colonel C. C. Reilly has been appointed to hold charge of the Military Hospital at Colaba, Bombay. Lieutenant-Colonel J. W. Bullen has been appointed to the Northern Command for duty. Lieutenant-Colonel H. D. Rowan has been appointed to hold charge of the King George V. Military

Hospital at Arbor Hill, Dublin. Lieutenant-Colonel M. O'D. Braddell has been appointed to the Irish Command for a tour of duty. Lieutenant-Colonel G. S. McLoughlin, D.S.O., has been appointed to hold charge of the Military Hospital at Winchester.

Major A. D. Waring has taken up duty at the Military Hospital, Hilsea. Major W. Tibbits has embarked for a tour of service in India. Major A. W. A. Irwin has joined at Cork. Major J. C. B. Statham has arrived home for duty from the Sierra Leone Protectorate. Major D. J. Collins has been transferred from the Military Hospital at Poona Cantonment to Kirkee. Major G. B. Crisp has arrived in Hong-Kong for a tour of service. Major H. W. Long has taken up duty at the Military Hospital, Devonport. Major B. B. Burke has been appointed to the Military Hospital at Dover. Major H. L. W. Norrington has arrived home on leave of absence from the Military Hospital at Malta. Major E. A. Bourke has been appointed for duty at the Military Hospital, Pembroke Dock. Major N. J. C. Rutherford has been selected for appointment as Specialist Sanitary Officer to the Cork District. Major C. W. Reilly has been appointed to hold medical charge at Bodmin.

Captain J. T. McEntire has arrived home on leave of absence from the Sierra Leone Protectorate. Captain N. E. J. Harding has been appointed to the London District for a tour of duty. Captain L. A. A. Andrews has been transferred to the Northern Command from the Military Hospital at Cork. Captain W. G. Maydon has been selected for appointment as Adjutant to the Royal Army Medical Corps School of Instruction in the West Lancashire Division. An exchange on the roster for service abroad has been approved between Captain C. P. O'Brien-Butler and Captain H. L. Howell. Captain W. F. H. Vaughan has embarked for a tour of service in Malta. Captain C. M. Drew has arrived home on leave of absence from Cairo. Captain B. A. Odlum has been selected for appointment as Instructor in Medical Corps duties at the South African Medical College. Captain J. G. Bell has embarked for a tour of service in the Straits Settlements. Captain H. J. Crossley has been appointed to the Military Hospital at Meerut Cantonment. Captain W. R. O'Farrell has arrived home on leave of absence from the Military Hospital at Alexandria. Captain P. J. Hanafin has been transferred to the Military Hospital at Dublin from Rogerstown Camp. Captain H. M. J. Perry has been selected for appointment as Specialist in Bacteriology and Prevention of Disease at Devonport. Captain A. W. Bevis has joined at Belfast. Captain W. E. Marshall has arrived home on general leave of absence from the Military Hospital at Cairo. Captain T. S. Dudding has been placed under orders for a tour of duty in India. Captain H. W. Russell has embarked for a tour of service in India. Captain A. C. Osburn has taken up duty at the Royal Victoria Hospital, Netley. Captain C. T. Edmunds has been transferred from Fawley Court to Bulford Camp. Captain W. Mathieson has arrived home on general leave of absence from the Military Hospital at Pretoria. Captain F. C. Sampson has been selected for appointment as Specialist in Dermatology and Venereal Diseases. Captain M. J. Lochrin, Captain E. M. Middleton, and Captain A. W. Howlett have been placed on duty on board the transport ss. *Plassy*, which left Bombay for Southampton on Nov. 7th with time-expired troops. Captain A. S. Arthur has been appointed to the Military Hospital at Liverpool. Captain T. W. Stallybrass has arrived home on general leave of absence from the Military Hospital at Khartoum. Captain R. C. Hallowes has been appointed to the Military Hospital at Omagh. Captain W. J. E. Bell has joined the London District for a tour of duty. Captain E. C. Lang has been transferred from Maryborough Heath Camp to the Military Hospital at the Curragh. Captain T. C. C. Leslie has taken up duty at the Military Hospital, Cork. Captain R. E. Porter has been transferred from Poeghane Camp to the Military Hospital at Nenagh. Captain F. A. H. Clark has been appointed to hold charge of the Brigade Laboratory at Calcutta. Captain A. D. Fraser has been appointed to the Royal Victoria Hospital at Netley, on transfer from London. Captain P. M. J. Power has been appointed to the Military Hospital at Cosham. Captain A. M. Pollard has been appointed for duty to the Military Hospital at Colchester. Captain C. A. T. Cunningham has been appointed Specialist in Dermatology and Venereal Diseases to the Fifth (Mhow) Division of the Southern Army in India.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel G. G. Giffard has taken up duty as Superintendent of the Government Maternity Hospital, Madras Presidency. Lieutenant-Colonel A. E. Berry has been granted general leave of absence home from India for one year. Lieutenant-Colonel H. E. Banatvala has been appointed to officiate as Inspector-General of Civil Hospitals and Prisons and Sanitary Commissioner in Assam, vice Colonel R. N. Campbell, C.B., C.I.E., who has arrived home on leave.

Major H. B. Foster has been appointed to officiate as Professor of Medical Jurisprudence at the Goverment Medical College, Calcutta, during the absence on leave of Major O. St. John Moses. Major A. E. J. Lister has been appointed Professor of Physiology on the staff of King George's Medical College at Lucknow. Major A. M. Jukes has been confirmed in his appointment as Deputy Sanitary Commissioner to the Burdwan and Presidency circles in Bengal. Major J. W. Grant has been granted privilege leave of absence by the Government of India. Major H. A. J. Gidney, civil surgeon at Naga, has been deputed to Delhi by the Assam Administration in connexion with the prevention of malarial fevers.

Captain A. J. V. Betts has been granted leave of absence on medical certificate. Captain F. P. Mackie has been appointed to the Bacteriological Department of the Government of India. Captain H. C. Keates has been granted leave of absence. The services of Captain M. J. Quirke have been placed permanently at the disposal of the Government of Madras for employment in the Sanitary Department. Captain R. E. Flowerdew has been appointed to hold substantive medical charge of the 99th Regiment of Deccan Infantry. Captain J. S. Fitzgerald has been selected for appointment in the Bombay Jail Service. The services of Captain W. S. McGillivray have been placed temporarily at the disposal of the Burmese Administration for employment on plague prevention duty. Captain N. M. Wilson has been granted leave of absence. The services of Captain S. J. Bathena have been replaced at the disposal of the Commander-in-Chief. Captain A. C. Ingram has taken up duty in Madras Presidency.

Lieutenant P. F. Gow has been selected for appointment as Specialist in the Prevention of Disease and placed in charge of the Bacteriological Research Laboratory at Brigade Headquarters, Allahabad. Lieutenant P. J. Veale has been granted eight months' general leave of absence home from India on medical certificate.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant Thomas Lindsay to be Captain (dated Nov. 12th, 1913). Lieutenant George Rollason resigns his commission (dated Nov. 12th, 1913). Lieutenant Frederick L. Tulloch is confirmed in his rank.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Colonel William Coates, C.B., Territorial Force Reserve, is appointed to the Honorary Colonelcy of the Royal Army Medical Corps in the East Lancashire Territorial Division (dated Nov. 12th, 1913).

Colonel Joseph Whitfield Blandford, Retired List (late of the Army Medical Service), is appointed to the Honorary Colonelcy of the Royal Army Medical Corps in the Northumbrian Territorial Division, vice Honorary Colonel Sir George H. Philipson, Knight, who vacates the appointment (dated Nov. 11th, 1913).

6th London Field Ambulance, Royal Army Medical Corps: Lieutenant Frank Colman, from the 5th London Field Ambulance, Royal Army Medical Corps, to be Lieutenant (dated Oct. 13th, 1913).

3rd Lowland Field Ambulance, Royal Army Medical Corps: Captain James H. H. Pirie is seconded under the conditions of paragraph 112 of the Territorial Force Regulations, for service under the Colonial Office (dated Oct. 1st, 1913).

2nd London (City of London) General Hospital, Royal Army Medical Corps: Captain Henry P. Dean resigns his commission (dated Nov. 12th, 1913).

1st Western General Hospital, Royal Army Medical Corps: Lieutenant-Colonel Thomas H. Glynn resigns his commission (dated Nov. 12th, 1913). Major Sir Ronald Ross, K.C.B., to be Lieutenant-Colonel (dated Nov. 12th, 1913). Captain Peter Davidson to be Major (dated Nov. 12th, 1913). Captain

Arthur John Evans, from the 1st West Lancashire Field Ambulance, Royal Army Medical Corps, to be Captain, whose services will be available on mobilisation (dated Nov. 12th, 1913).

Attached to Units other than Medical Units.—Lieutenant James M. Kirkness to be Captain (dated August 1st, 1913). The undermentioned Lieutenants resign their commissions (dated Nov. 12th, 1913): Richard C. Roberts and Frederick G. Harper.

THE ROYAL AUTOMOBILE CLUB AS A HOSPITAL IN TIME OF WAR

At a recent meeting of the committee of the Royal Automobile Club the following resolutions were adopted :—

[illegible]

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

In the November issue of the *Journal of the Royal Army Medical Corps* Colonel W. H. Horrocks returns to the subject of the variation of the bacillus typhosus. His present conclusions are that under certain conditions B. typhosus may be converted into B. fæcalis alkaligenes, but he is unable to afford any evidence as to the epidemiological significance of this variation. "The B. fæcalis alkaligenes appears to have no pathogenic effect on ordinary laboratory animals, and it has not been possible to reconvert this variant into the B. typhosus." The military great coat, which, by the way, we do not hear of being used in the British army until the reign of Elizabeth, is the subject of a very interesting article by Captain N. Dunbar Walker, who discusses the construction and use of this garment by the armies of Europe, of America, and of Japan. Dairies and Cowsheds, their Effect upon the Purity of the Milk Supplied to Military Hospitals, Troops, and Married Families, by Staff Sergeant E. B. Dewberry, R.A.M.C.; Kala-Azar in an Adult from Malta, by Fleet-Surgeon P. W. Bassett-Smith; a case of Death from Syphilis occurring Nine Days after Injection of Salvarsan, by Captain J. H. Duguid and Lieutenant W. T. Graham; and the Phylactic Use of Quinine, by Lieutenant-Colonel H. N. Thompson, are other matters dealt with in the present issue of the *Journal.* Students of military history will appreciate the excerpts from old records by Colonel R. H. Firth on Some Indian General Orders.

NAVAL MEDICAL CONSULTATIVE BOARD.

Surgeon-General John J. Dennis has been appointed a naval member of the Naval Medical Consultative Board in the place of Surgeon-General Howard Todd, C.B., K.H.S., retired. Sir John Tweedy has been appointed a civilian member of the Board.

MIDDLESEX COUNTY COUNCIL AND THE TREATMENT OF TUBERCULOSIS.—[illegible] of the Middlesex county [illegible] tions had been received fr[illegible] from tuberculosis for institutional treatment. Hitherto sanatorium treatment had been limited to insured persons, [illegible] progress [illegible] he treat-[illegible] persons contributed towards the cost of sanatorium benefit it would only be equitable that a contribution towards the cost should be made by non-insured patients, the amount being considered in each case on the merits. The council passed the following resolutions :—

> That where the council think it advisable the treatment of non-[illegible] from tuberculosis be undertaken at hospitals, [illegible] the county council upon the basis of [illegible] possible, by the patient towards the [illegible]
>
> That institutional treatment be undertaken only so far as accommodation is available at any of the hospitals or sanatoriums under the control of the county council, or to which it has agreed to send patients.
>
> That the public health committee be *authorised to sanction the above* treatment and to settle the amount of the contribution, if any, in each individual case.

MOTORING NOTES.

(FROM A SPECIAL CORRESPONDENT.)

A Stand-to-Stand Visit of Inspection at the Olympia Exhibition.

WITH over 300 exhibits, the doctor in search of a car will feel confused unless he relies rigidly upon one factor in his choice—namely, the price which he will give. Generally speaking, there are two classes of doctors who need motors. There is the town and country specialist, to whom price is of little importance, and who will find in either a Rolls-Royce, a Delaunay-Belleville, an Armstrong-Whitworth, a Wolseley, a Lanchester, a Renault, a Sunbeam, a Vauxhall, a Fiat, a Minerva, a Napier, or a Clement-Talbot a car that will fulfil all his wants. Any of these are sure to give satisfaction, the price varying from about £1200 or £1300 for a Rolls-Royce to about half, or less than half, of that amount for some of the cheaper makes. The other class is the general and country practitioner, and the question of expense with the major part of them has to be considered. This class can probably be again divided into two — those who merely want a two-seater for their professional work, and those who would like a car which they could also use for week-end or other holidays with their families. If it is a matter of expense, it should be borne in mind that the light two-seater is much cheaper, not only to buy, but also in running cost and upkeep.

Messrs. Alldays and Onions show their two- and four-cylinder models. *Their new four-cylinder 10 h.p is a model* of sound engineering, and one worthy of the doctor's consideration. The brake adjustment is by means of thumbscrews in very accessible positions, and the body provides plenty of room for the occupants. The 10 h.p. Midget has a two-cylinder engine, and makes an excellent light two-seater.

Messrs. Argylls, Limited, show on Stand No. 73 their 12–18 h.p. poppet valve and samples of their later models of sleeve Argyll engines Their coachwork as well as their chassis is bound to attract great attention.

The Ariel and General Repairs, Limited, show the Hurtu 10 and 14 h p. cars, both with four cylinders Little alteration has been made to their last year's model, except that now the gearbox gives four forward speeds, and provision has been *made at the foot of the engine for fixing a dynamo* for lighting purposes.

Messrs. Bayard show a two-seater torpedo fitted with a four-cylinder 60 mm. × 120 mm. engine. The polished mahogany covering for the petrol tank and *one-man type* hood make the model very attractive.

Messrs. F S. Bennett, Limited, show on Stand No 108 the new Cadillac motor This is certainly replete with novelties; these include two direct drives by means of two pairs of bevel gears, either for working alternatively or giving the car two different gear ratios. An electric starter is also fitted, and the gears are changed by means of an electric control.

Briton Motors Company, Limited, show their two seater, fully equipped with a 68 mm. × 120 mm. four-cylinder engine, which has been previously described in these Notes, and should certainly be inspected by the doctor in search of a car at less than £200. The price is 175 guineas for a two-seater and £200 with a four-seated streamline body.

The exhibit of the Darracq Company has always been of interest. *This year the great* attraction is their 12 h.p and 16 h.p. car, designed by Mr. Owen Clegg. Both are full of new features. The chassis cannot claim all the improvements, for the coachwork fitted shows a very marked advance both in design and *workmanship*, and it is pleasing to note that this also is produced in the Darracq factory at Fulham. The 12 h.p. is shown as a torpedo and limousine landaulette. There will be a large sale of this high-class model.

The models of the *De Dion Bouton Company* are to be seen on Stand No. 74, the most noticeable feature being the introduction of a small four-cylinder model in place of the twin-cylindered model used for so many years past. This new 8-10 h.p. chassis has a four-cylindered 56-120 mm. monobloc engine, and is supplied as either a two-, three-, or four-seated car. It has a chain-driven single camshaft, chain drive to magneto and oil pump, and thermo-syphon cooling, assisted by a fan mounted on an adjustable bracket. The valves are enclosed, the carburetter is the De Dion-Zenith, and the magneto is a Bosch. The price for chassis, tyres, and tool kit is £221. Other models are also shown.

The Hillman Motor Company show four types of their new 9 h.p. car, fitted either as a two-seater with hood, &c., or as a two-seater coupé, which would make a very useful car for professional use.

Messrs. Metallurgique, Limited, are on Stand 99. Their 15-20 h.p. is an improved edition of their 1913 type. A special platform is arranged for an electric light dynamo, and, as is now so universal, the valve gear is driven by a silent chain.

Messrs. Morgan and Co. exhibit on Stand No. 80 three entirely new Adler models. There is a 9 h.p. with a four-cylinder monobloc engine 65 × 98 mm., complete with Morgan two-seated body, also a chassis of the same type. They also manufacture a tandem two-seater on this chassis, and it is essentially one that should be considered by all in search of a light two-seater. The 11-16 h.p. chassis has a four-cylinder engine 67 × 110 mm., cast in pairs, fitted with the latest design Morgan coupé-landaulette body, and the 20-30 h.p. chassis has a four-cylinder engine 86 × 135 mm., equipped with the "Morgan" new patent cabrio-landaulette body. The popular 14-18 h.p. model, fitted with the latest design "Morgan" torpedo body, is also shown.

Messrs. W. R. Motors, Limited, show the Morris-Oxford Light Car, which has a White and Poppe engine and carburetter, and all the brakes are on the back axle. Three-quarter elliptic springs are fitted, so the riding should be most comfortable. The price for a two-seater model de luxe is 190 guineas, complete with Sankey detachable wheels, but the ordinary type is listed at £180. This little two-seater is especially worth close inspection.

The cars of the Rover Company, Limited, have always appealed to doctors, and their exhibit of their 12 h.p. models, with different type bodies, should certainly attract attention. There is little alteration in their 1914 cars, except that the wheel-base has been increased and a dynamo lighting outfit is supplied as a standard equipment.

The Sunbeam Company show on Stand 101 some very good examples of their 12-16 and 16-20 chassis. There are no changes to record in the main design of this car, last year's models having given such universal satisfaction.

The Swift Company, on Stand 42, show samples of their 11·9 and 15·9 cars. The former as a two-seater is sold at £285, and the latter with a streamline body, including a dynamo electric lighting set, is £385. Both of these cars are certainly worthy of close attention by those who can run to these prices.

Clement Talbot, Limited, show four cars. Their 12 h.p., which sells at £410 complete, is the one most likely to appeal to doctors.

The Vulcan Motor and Engineering Co., Limited, have made practically no changes in their 10 h.p. engine, but their 15 h p. model has a new monobloc engine. A good many doctors have had these cars and have reported most favourably concerning them.

The stands of the Belsize Company and of the Star Engineering Company should be visited, as both make cars eminently suitable for medical men.

Tyre exhibits are always interesting, and the points which seem to have advanced are the greater use of bolt-plate valves and detachable rims and wheels.

The Warland detachable rim, which is used on a good many cars, including the De Dion, certainly seems a favourite, and is to be recommended. All the tyre manufacturers are well represented in the gallery—the Dunlop, the Continental, the Michelin, the Palmer, the Stepney Spare Motor Wheel, Limited, and the Wood-Milne, Limited. The two latter have exceedingly satisfactory all-rubber non-skids, and the manufacturers named produce goods that can certainly be relied upon.

From tyres it is but a step to tyre-repairing appliances, and those of Messrs. Harvey Frost and Co., Limited, create genuine interest on account of the new models and the important additions to existing models.

Messrs. H. M. Hobson, Limited, show a full range of sparking plugs. This year they have brought forward a new type of plug, which is shown at Olympia for the first time, and will be on sale on and after December 1st. The special purpose of this plug is to do away with the wear of the electrodes due to the action of the voltaic arc when the engine is running. This voltaic arc volatilises the molecules of the electrodes, and in consequence the distance between the sparking points widens, and renders easy starting, or starting at all, impossible. Similarly, the electrode may melt and the spark lose its energy, or surplus oil sticking on the electrodes may cause other troubles. The new arrangement of the patent expanding electrode does away with these troubles. The insulated centre stalk is made in its whole length of two metals, riveted and soldered together, but with different co-efficients of expansion. Owing to its varying expansion this centre stalk bends more and more as the heat increases, hence it can be easily understood that this electrode, when brought nearer to the electrode attached to the body of the plug, facilitates the starting of the engine, as the spark jumps across easily. Then, as the speed of the engine increases, the patent electrode gets hotter and hotter, and consequently bends farther away from the electrode on the body of the plug, and this wider gap causes the spark to give out its maximum heat and power at all speeds of the engine.

Messrs. Brown Bros., Limited, have an interesting range of motor accessories, such as the Brolt electric lighting installation, the autoclipse lamps made for either acetylene or electricity, the popular Gabriel horn, the shock absorber which was described previously in these Notes, as well as the Sampson plug for repairing punctures, which was also recently fully described. A great many owners like to do a good bit of repairing work themselves, and for those who care to remove the carbon deposit from their cylinders, instead of having it burnt out, the "Success" carbon-removing tools will appeal. They enable the cylinder head and piston to be thoroughly scraped as well as the edges of the parts. After the carbon has been scraped the deposit can be blown into the valve chambers by a tyre pump, whence it can be spooned up by means of the special tools provided.

Speedometers are accessories which, though not necessary, are certainly very much in favour. Messrs. Stewart have always produced a reasonable and popular one, and their 1914 models have certainly an advantage over the older ones, as provision is made for lubrication of the wheel-driven bevels, which in the older days occasionally gave trouble through wear. Messrs. S. Smith and Son and Messrs. Markt and Co. also show excellent speedometers, which are sure to give satisfaction.

Some who have to travel in all weathers may be attracted by the Thompson-Bennett exhaust car heater. This firm also show the warning-tone horn, which is merely worked by a small hand plunger, without the use either of a mechanical driver or of electricity.

Electric car lighting has now become almost a necessity, especially for doctors. Of course, accumulators can be used and will supply sufficient current for ordinary side and head lights, but they have to be kept charged, and occasionally they may get run down and cause anxiety as to whether the light will last for the return home journey. This, of course, should not occur if they are kept charged, but all this worry can be avoided by an electric light installation driven off the engine.

The Imperial Motor Industries, the Motor Accessories Company, Messrs. S. Smith and Sons, the Rotax Motors Accessories Company, Messrs. Peto and Radford, the Mira Magnetolite, and Messrs. C. A. Vandervell and Co. all show exceedingly neat dynamos and fittings for car lighting. That shown on the stand of the Imperial Motor Industries is of exceptional interest, as it also combines a self-starter. The question whether a high voltage or low voltage is preferable is greatly a matter of taste. The writer rather inclines to a low voltage, and one point which he thinks should be insisted upon is that the dynamo can easily be disconnected when not required for accumulator charging or lighting.

The Atlas Inner Case Syndicate show a useful petrol filler, which is also a strainer, as well as their impulse pump, which latter is certainly of value, and was fully described some time ago in these Notes.

The Scott's Starter Syndicate, Limited, also show an efficient electric starter and lighting generator.

The general impression of the exhibition is that it is very much like its predecessors, except that there are more exhibits. Leather-faced cone clutches are as popular as ever, for which I think the doctor should be grateful, as they are satisfactory, and even if the leather does wear it can easily be replaced. Four-speed gear boxes are ousting the three-speed, and smaller engines are more universal. The exhibition is certainly like a good pudding—it has plenty of plums in it, and there is now much more likelihood of a purchaser drawing a plum than there was in the past.

Any of the cars mentioned above can, in the writer's opinion, be safely bought by doctors with almost a certainty of good and efficient service, provided the purchaser, either personally or by his chauffeur, takes care of his car.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Cremation in Manchester.

FROM the annual report of the Manchester crematorium we learn that the cremations last year reached 159, the numbers for the four previous years being 117, 110, 113, and 147. The number of visitors paying for admission to see the crematorium (1667) also showed an increase. The numbers present at cremation funerals reached 5330. The directors state that attendance at cremation funerals is largely effective in removing prejudice against cremation. There are 13 crematoria in the kingdom, and only one, that at Golder's Green, had more cremations last year than the Manchester crematorium. After defraying all expenses there is a surplus of £418, while the accumulated surplus amounts to £634, and the reserve account stands at £800.

Burnley Victoria Hospital.

Mr. Edward Green has intimated to the Burnley Victoria Hospital authorities that his wife and her sister, Mrs. Greenhalgh, will contribute £1000 for a cot to be placed in their names in the female ward.

The Birth-rate in Manchester.

Dr. E. Sergeant, the county medical officer, in his recent report stated that the birth-rate for Lancashire in 1912 was the lowest on record, with the exception of 1910. In Manchester up to the end of September there has been an appreciable increase in the birth-rate.

Nov. 11th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Dinner of the Medical Institution.

THE biennial dinner was held on Nov. 8th at the Exchange Station Hotel, when about 160 members and guests sat down. Among the guests were the Bishop of Liverpool, the Lord Mayor, Dr. W. S. A. Griffith, and the Presidents of the medical societies of Chester, Birkenhead, St. Helen's, and Wallasey. Mr. Robert Jones, the President of the society, was in the chair. After the usual loyal toasts, Dr. Caton proposed "The City and Port of Liverpool," and spoke of the many improvements that were taking place. The Lord Mayor, in replying, paid a high tribute to the work of the profession, and more especially to the work of the Tropical School, inasmuch as the world owed the completion of the Panama Canal to tropical research. He thought the greatest requirement now was better means of communication between the two banks of the river, so as to unite the population of the district. The Bishop of Liverpool proposed "The Liverpool Medical Institution," and gave a short account of its origin in the eighteenth century and how it had grown by the union of three parent societies between 1830 and 1840. He said it was owing to the Medical Institution that the idea of a Liverpool University had begun. The President, in replying, said that the institution could boast of as great activity and as large meetings as any society in the country. Dr. Griffith, in replying for the guests, said that Dr. Rutter, in founding the society in its present form, had hoped that it might and would be the means of uniting its members in a firm and compact body, working on individualistic lines but in friendliness and with mutual esteem. A society such as this, by bringing its members constantly into contact with one another, might fulfil the wishes of its founder.

Visit of Sir Dyce Duckworth.

Sir Dyce Duckworth has been visiting the city of his birth as the guest of Mr. T. H. Bickerton, who entertained a large party at dinner to meet him before the meeting at the Medical Institution. After the meeting there was an informal gathering at Mr. Bickerton's house, when about a hundred medical men had the pleasure of hearing from Sir Dyce Duckworth his reminiscences of bygone Liverpool medical men. Among a large number of past leaders Sir Dyce Duckworth paid especial tribute to the Bickersteths, quoting Symes as having said that E. R. Bickersteth was "the finest surgeon in England."

The Passing of Two Notabilities.

Two well-known figures for many years connected with the Royal Infirmary have passed away—the Rev. William Smith and Mr. James Lister. Mr. Smith was chaplain at the infirmary from 1865 until he resigned about a year ago. He died quite suddenly on his way to church on Sunday, Oct. 26th. Mr. Smith had qualified as a medical man. Under rather an austere exterior there was a kindly personality which endeared him to those who really knew him. Mr. James Lister had for many years been a member of the committee of the Royal Infirmary, in which he took the greatest possible interest, making frequent visits there and personally knowing many residents, nurses, and patients.

Nov. 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Tuberculosis in Lanarkshire.

ARRANGEMENTS are now in progress for a joint sanatorium for the burghs of Hamilton, Motherwell, Wishaw, and Rutherglen, and a site has been purchased on the estate of Muirbank, Strathaven. It is proposed to build a hospital pavilion for 20 beds, [illegible] each with 20 beds, and two [illegible] same capacity; an adminis- [illegible] will be replaced for a further two minutes, after which four of them read 98·0° and one 97·6°. The clear duty of every conscientious practitioner is obvious—namely, to test every clinical thermometer he buys, in regard both to the accuracy of its graduation and to the time taken in reaching the temperature of the surrounding medium.

I am, Sir, yours faithfully,
Nov. 8th, 1913. PHYSICIAN.

, These observations agree with the conclusions published in our issue last week. We then wrote: "For really accurate observations the 30 seconds thermometers give, generally speaking, more satisfactory results when they are incubated for more than 30 seconds, and according to the above experiments an incubation of a period of two minutes records the practical truth."—ED. L.

THE MEDICO-PSYCHOLOGICAL CLINIC.

To the Editor of THE LANCET.

SIR,—It has been impossible to ignore the press notices of the inaugural meeting of the Medico-Psychological Clinic. It is distressing to the committee to find that a great deal of misunderstanding has arisen, and we feel bound in justice to ourselves, to the pioneers of psychotherapy, and to the supporters of our movement to dissociate ourselves entirely and absolutely from the occult powers that Lord Sandwich claimed for himself. Lord Sandwich has expressed his sincere regret to the committee for the misunderstanding he has caused, and this terminates his association with the clinic and with the committee.

We profess nothing but ordinary medical knowledge acquired in the ordinary way. We have no gifts or methods not open to every practitioner. It is our belief that the clinic will attract cases of threatened nervous breakdown in a stage at which preventive measures may avert calamity. It will offer a place of study for medical practitioners who wish to acquaint themselves with practical psychotherapy. The whole of the healing art was cradled in superstition. In the minds of many psychotherapy is still tinged with charlatanism, and from this the clinic will help to dissociate it.

We feel sure that the profession will appreciate to the full the difficulties and delicacy of the work we have in hand, the dangers to be avoided and prejudices to be overcome, and we trust that it will join with us in aiding a work which must of necessity be the object of adverse criticism and unavoidable misconceptions in its early stages.

We are, Sir, yours faithfully,
HECTOR MUNRO.
J. M. MURRAY.
JOHN SPENCER.
CONSTANCE E. LONG.
Endsleigh-street, W.C., Nov. 10th, 1913.

THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—The figures below are of some interest if they are like those of others practising amongst the insured. The figures will doubtless expand during the winter months, and I reckon the payment we receive will work out at barely 1s. per professional attendance—an inadequate sum. Total acceptances, April 15th, 1078; June 30th, 1136; average per quarter, 1107. For 1107 persons accepted for treatment there were, visits, 187; attendances, 1261. June 30th to Sept 30th: Average acceptances, 1146; visits, 136; attendances, 1164. Total number of persons who have seen me once or oftener since April 15th, 601, or 50 per cent. of total on my list.

I am, Sir, yours faithfully,
Brighton, Nov. 8th, 1913. CHAS. FRASER.

THE NATIONAL INSURANCE ACT AND MEDICAL REFEREES.

To the Editor of THE LANCET.

SIR,—At the recent meeting of the London Insurance Committee, of which a short report appeared in THE LANCET of Nov. 1st, a recommendation of the General Purposes Subcommittee was considered which seems to me to raise questions of much importance.

The proposal was that the services of medical referees should be made available to Approved Societies desiring advice (1) as to whether an insured person was incapacitated as a result of illness or injury which might entitle him to receive or recover any compensation or wages under the Workmen's Compensation Act, 1906, or under the Employers' Liability Act, 1880, or otherwise as provided in Section 11 of the National Insurance Act, or (2) as to whether the insured person was suffering from a disease caused by misconduct in respect of which sickness benefit may be suspended under the provisions of Section 14 (2) of the Act. It was further recommended that the expenditure involved could be met out of the sum of £1000 authorised for the services of medical referees out of the Benefits Administration Fund.

The recommendation, I observe, met with opposition upon the committee, Mrs. Handel Booth moving that it should be referred back, but was accepted by a majority. It certainly appears to tend to impose upon medical referees duties outside those for the performance of which their appointment has appeared necessary and has been generally approved. Moreover, it seems to me that it would bring them into unnecessary contact with the Approved Societies and to constitute them investigators of matters outside the expression of medical opinion upon questions of disease. As I understand the matter, the contract for medical attendance is between the medical man and the Insurance Committee, and the certificate given by the medical man should state with accuracy the nature of the disease from which his patient suffers. It may be necessary or desirable that a medical referee should consider the accuracy of a statement as to the nature of a disease made in a certificate, and it may also be necessary or desirable that an Approved Society should be sure that its funds are not being depleted by a person who, owing to the manner in which his incapacity came about or his behaviour when under treatment, is not entitled to partake of them. It does not, however, follow that a medical referee should be employed to do more than make sure that a medical certificate correctly states medical facts, where *primâ facie* there is ground for suspicion that it does not do so. That the medical man attending a patient should have his attention called to the provisions of Section 11 or Section 14 (2) of the Act in respect of a particular case is not unreasonable. But his explanation or opinion on the question involved should be specifically obtained before a medical referee should be invited to intervene, and the intervention of the medical referee should be confined within strictly defined limits. I submit that these, where they involve inquiries into the original cause of incapacity and the behaviour of a patient, should not go beyond such inquiries as the medical attendant on the panel might reasonably make in the same direction.

I am, Sir, yours faithfully,

Nov. 6th, 1913. MEDICO-LEGAL.

THE NATIONAL INSURANCE ACT.

THE REVISED REGULATIONS FOR MEDICAL BENEFIT.

WE have received from the Insurance Commissioners a copy of the draft Regulations dated Nov. 7th, 1913, which they propose to make under Section 15 of the National Insurance Act, together with a leaflet (Memo. 185/I.C.) which deals with the method which has been adopted in revising the Regulations for medical benefit and with the arrangements for providing this benefit during the year 1914.

These Regulations, which will come into operation on Jan. 12th next, will shortly be on sale.[1] They take substantially the same form as the original Regulations for medical benefit which came into force last year. The Commissioners state that the revision embodied in these new Regulations was undertaken with a view to the adoption of numerous suggestions made as a result of actual working experience, and for the purpose of simplifying and facilitating administration for all parties concerned. This revision has been completed after consultation with the Advisory Committee.

The Commissioners in the accompanying memorandum draw attention to some of the more important amendments in the revised Regulations, and suggest means by which Insurance Committees may enter into agreement with medical practitioners and pharmacists on the basis of the revised terms of service. It is particularly noted that the new Regulations do not affect the amount available for the remuneration of panel practitioners in respect of their services under the Act. Owing to the great difficulties experienced in the allocation of insured persons and the calculation of payments due to practitioners the Regulations have been modified. Insurance Committees are now relieved of the obligation to attempt such an allocation, while the First Schedule has been amended so as to secure that the "quarterly credit" of each practitioner shall be calculated on the numbers on his list at the beginning of the quarter, thus enabling the preparation of the quarter's accounts to be undertaken soon after the commencement of the quarter.

The system of complete personal allocation having been abolished, an equivalent provision is made for distributing the available funds among practitioners on the panel, in accordance with the right which they respectively assume. By this device panel practitioners are to be credited with additional capitation fees equal in number to the number by which the insured population entitled to medical benefit at the beginning of the quarter exceeds the total number on the practitioners' lists at that date.

The Panel Committees (referred to in our last issue) are to make arrangements in advance for the assigning among doctors on the panel, or some of them, of insured persons who subsequently apply to be assigned; and the method of distribution of the additional capitation fees will take into consideration the responsibility thus placed upon individual practitioners for patients subsequently assigned to them during the quarter.

The memorandum explains the general effect of the changes made in the new Regulations under the heads of Removals and Temporary Residents. The Commissioners claim that the main effect of these changes is in the direction of greater simplicity and uniformity. With regard to complaints, the powers of Insurance Committees have been enlarged in some respects, while panel practitioners will be afforded a general right of appeal to the Commissioners against any decision of an Insurance Committee on a question investigated by the Medical Service Subcommittee. The revision of the First and Third Schedules has involved corresponding changes in some of the actual Forms of Agreement, while clauses have been drawn up so as to meet the widespread desire expressed by medical practitioners, and endorsed by the Advisory Committee, to obviate the need of an appeal to the law courts in case of dispute between a panel practitioner and an Insurance Committee, as well as to meet difficulties due to breaches of the practitioner's Agreement not sufficiently covered by the previous Regulations. The memorandum concludes with suggestions for expediting the arrangements made by Insurance Committees for providing medical benefit for the medical year commencing January 12th, 1914.

ABERDEEN INSURANCE COMMITTEE.

At a recent meeting of the Aberdeen Insurance Committee a minute of the finance committee was discussed to the effect that the Scottish Insurance Commissioners should be asked whether they would be prepared to sanction an expenditure of £100 annually upon putting into effect Section 60 (1) (b) of the Insurance Act, 1911, which says that an insurance committee "shall make such provision for the giving of lectures and the publication of information on questions relating to health as it thinks necessary or desirable.[1]" Mrs. Ogilvie Gordon and Dr. Forbes spoke in favour of taking action under the section, and dwelt upon the necessity for education in matters of health in order to preserve the well-being of the community; the chairman intimated that the Commissioners had expressed in a letter general sympathy in the proposal, and the meeting was unanimously in favour of steps being taken under the subsection referred to. The question of the choice of a medical attendant by the insured was also discussed. 7700 postcards had been issued to those who had not made their choice, and of these 2633 had been returned, the number of those who after being specially communicated with had selected medical men amounting to 3000. Mr. John Milne, who introduced the report dealing with this topic, said that it was "a matter that interested insured persons very deeply, but they had also recognised that the medical men had their rights in the matter." Apparently the question of distributing without further delay those insured persons who had not felt deeply enough interested to make their choice has not yet been dealt with at Aberdeen, and the report of what had taken place was adopted without it being raised. At the same meeting it was stated that the Commissioners, in reply to questions on the subject from the Medical Service Subcommittee, said that in terms of his agreement the insurance practitioner must, at the request of an insured person who was on his list, furnish free of charge such certificates of incapacity as were required to be furnished in connexion with any claim for sickness or disablement benefit made by him in pursuance of the rules of the society of which he was a member. The insurance practitioner should furnish such certificates at the request of the insured person and any certificates necessary to satisfy the society that arrears were not to be reckoned. The practitioner was, of course, not bound to furnish certificates for the purpose of satisfying the employer as to compensation, but he should supply such certificates as were necessary to enable the insured person to obtain an advance from his society pending the settlement of his claim.

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[1] Draft Regulations, National Health Insurance (Medical Benefit), England, 1913. Wyman and Sons, Fetter-lane, London, E.C. Price 3½d.

[1] THE LANCET, Nov. 1st, p. 1280.

BRISTOL INSURANCE COMMITTEE.

At a recent meeting of the Bristol Insurance Committee some interesting figures were given by the chairman with regard to the work of the committee. At Bristol on July 14th there were 120,058 persons entitled to medical and sanatorium benefits. The addition of deposit contributors out of all benefits brought the figure up to 120,343, or about one-third of the whole population, a net increase of 6173 insured persons. Payment to medical men and institutions had been on account of 96,316 persons who had chosen their medical attendants and 11,304 treated through institutions; 12,723 persons had not chosen their medical men, an increase on the figure (less than 10,000) of a few months earlier. The disposal of a sum of £4453 was thus under consideration, and the chairman supposed it would some day reach the hands of the medical profession. He called attention to the disregard of 10 per cent. of the insured to exercise their right of choice, and expressed regret that the system of payment by incidence of sickness was not adopted by the medical profession at Bristol. This would have meant the distribution of the whole of the panel fund quarter by quarter, money would be earned by work done with less clerical work for the Committee and for the medical men, and there would have been no funds left to quarrel about in the future. He did not know whether it was now possible to change their system of remuneration, but he personally would welcome the alteration, and he believed that it would be for the benefit of the insured persons. The payment to druggists for work done and materials supplied was on a more business-like and satisfactory basis than that with regard to medical attendance, and he believed that the payment of fees for treatment accorded would ensure fewer complaints of perfunctory attendance. He described the capitation system as the voting of salaries, each vote being worth 7*s.* a year to its recipient. There were 117 medical men on the Bristol panel, of whom 61 received less than £200 a year, the average earnings of these amounting to £113. One medical man made over £1100 a year and two made over £1000. Half the divisible fund was shared by 26 medical men with an average of £650 per annum. The remainder was divided between 91, who took from £400 a year to a few sovereigns.

A report of the Medical Benefit Subcommittee on the subject of the medical adviser to the committee showed that after-consultation with the Medical Service Subcommittee it recommended that the services of Dr. Bertram M. H. Rogers should be continued in this capacity for three months, the terms of service being a retaining fee of £82 10*s.*, and that Approved Societies with members in the area be invited not to appoint referees of their own, but to refer all cases through the committee to Dr. Rogers, at a charge of 2*s.* 6*d.* per case referred and 5s. per case examined; that medical men on the panel should also refer cases to him; and that the Commissioners be asked to appoint a permanent medical adviser—this to be, perhaps, eventually a whole-time appointment. The scheme referred to had received provisional approval from the Commissioners. The report was adopted.

Information was laid before the committee with regard to arrangements made by the Sanatorium Benefit Subcommittee for the reception of insured persons nominated by the committee at the Royal National Sanatorium, Bournemouth, at a fee of 30*s.* per week for each patient. Seven persons had been sent to this institution, and arrangements were pending for the sending of four more.

A CONFERENCE OF NON-PANEL MEDICAL SOCIETIES.

A conference of non-panel medical associations will be held in London at the Waldorf Hotel, Kingsway, W.C., on Saturday, Nov. 29th, at 3 P.M.

The National Medical Union, with the assistance of several leading London societies, is responsible for convening this meeting. Invitations are being issued to all known non-panel bodies, and the chief object of the conference is the promotion of the federation of non-panel organisations throughout the country. The promoters aim at making the meeting representative of all non-service practitioners, and secretaries of all such associations and all medical men who are not serving under the National Insurance Act are earnestly requested to communicate with the secretary of the Union, Mr. J. Webster Watts, 5, John Dalton-street, Manchester.

On Nov. 6th, at a meeting of the London Medical Committee, which is entirely non-panel, it was decided to send representatives to the Conference of Non-panel Associations. The committee appointed the chairman, Dr. Fred. J. Smith, Dr. Bernard O'Connor, barrister-at-law, and the honorary secretary, Mr. E. Arthur Dorrell, to be the representatives at the conference. A report was received by the committee that non-panel associations had been formed for Lambeth and for Islington and St. Pancras (combined). Also reports of meetings and of the strength of membership were received from Wandsworth, Hampstead, and Lewisham non-panel associations. A letter was received from a medical man in the Wandsworth district, who has unrivalled opportunity of observing the working of the Insurance Act in the poorer districts, showing how thoroughly the insured dislike the Act and the panel system with its restricted choice of doctor, and how "hundreds of panel patients come to me" either because they will not go to a panel doctor or do not wish to repeat the experience. The committee adjourned until Monday next, Nov. 17th.

ENFIELD LOCAL MEDICAL COMMITTEE.

A meeting of the Enfield Local Medical Committee (recognised as consisting of all the resident practitioners in the area) was held on Nov. 7th, and 12 members were present. The Commissioners' Circular 30/1C was considered, and it was resolved to memorialise the Commissioners in favour of the election of the New Panel Committee for Middlesex by *districts*. It was decided that nomination papers be signed in favour of Dr. J. Busfield, Dr. R. M. Hall, Dr. H. Distin, Dr. F. W. Foott, and Dr. R. L. Ridge, but in the event of election by districts being sanctioned, and two members only being allowed for Enfield, that then the three latter would withdraw their nominations in favour of Dr. Busfield and Dr. Hall.

The honorary secretary was authorised to send the names of these two practitioners to the medical papers as the official nominees of the Local Committee; also to ask general support for these candidates, and to promise the support of Enfield practitioners to the officially recognised candidates of other Local Committees if in proportion to the practitioners in those districts. Dr. Tresilian, Dr. Busfield, and Dr. Ridge were elected as the medical members of the District Insurance Committee.

THE DEATH OF DR. HORACE DIMOCK.

The inquiry into the death of Dr. Dimock was resumed on Wednesday last by the coroner for the Isle of Ely, Mr. Martin Hall, who said that it had been agreed to adjourn the inquest again until Dec. 3rd, Dr. W. H. Willcox requiring a month to complete his analyses.

Revelations have been made as to the persecution to which Mr. H. C. Meacock and other practitioners had been subjected owing to the position which they considered it due to themselves and their profession to take up; and it has now become apparent to the public, as well as to the medical profession, that the legal action taken against the late Dr. Dimock was an absolutely defensive measure supported and conducted by the police. The statutory Local Medical Committee of the Isle of Ely have passed a resolution recording "entire confidence in the honour of its chairman, Mr. H. C. Meacock, and the other medical practitioners of Wisbech, whose characters have been assailed in a most scurrilous and underhand manner," and extending to them and their wives "most sincere sympathy in their recent undeserved trouble."

The panel remains closed to the Wisbech practitioners, Dr. H. G. Baynes having been appointed in the room of the late Dr. Dimock.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held on Nov. 6th at Caxton House, Westminster, with Sir Francis H. Champneys in the chair.—A number of midwives were struck off the roll, the following charges, amongst others, having been brought forward: Having advised that a case was one in which the attendance of a medical practitioner was required, and a medical practitioner being in attendance accordingly, his instructions were not faithfully carried out as required by Rule E 6. Neglect to take the pulse and temperature of patients, as required by Rule E.13; neglect to wash the patient at any time; not being scrupulously clean, being ignorant of antiseptics and having no proper appliances, as required by Rule E.2. That when attending patients the midwife did not wear a clean dress of washable material, as required by Rule E.1. The bag of appliances was dirty, and had no washable lining. Not keeping the Register of Cases as required by Rule E. 23. Medical aid having been sent for, [illegible] thereof to the L [illegible] 21 (1). [illegible] charge fr [illegible] attendan [illegible] she did not hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5).

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Giessen*: Dr. Alfred Brüggemann has been recognised as [illegible] aryngology.—*Greifswald*: [illegible] ophthalmology, has been [illegible] —*Hamburg*: Dr. J. F. Wiesinger, surgeon to St George's Hospital, Dr. Carl Sick, surgeon to the Eppendorf Hospital, Dr. Hermann Wilbrand, ophthalmic surgeon to St. George's Hospital, and Dr. Max Nonne, physician to the Eppendorf Hospital, have been granted the title of Professor.—*Lausanne*: Dr. Taillens, *privat-docent* of medicine, has been promoted to an Extraordinary Professorship.—*Naples*: Dr. Ermanno Cedrangolo has been recognised as *privat-docent* of Medical Semeiology.

MEDICAL MAYORS.—The following members of the medical profession have been elected or re-elected to the mayoral chair: Mr. J. Robinson, L.R.C.P.I., L.R.C.S.I. (Cardiff, Lord Mayor); Mr. Preston King, M.D., B.C. Cantab. (Bath); Mr. S. Hale Puckle, M.B., Ch.M. Edin. (Bishops Castle); Mr. J. Rafter, L.R.C.P.I., L.R.C.S.I. (Bootle); Mr. S. R. Alexander, M.D. Lond. (Faversham), re-elected; Mr. H. Foster Jeffery, M.B., Ch.B. Vict. (Heywood), re-elected; Mr. W. E. L. Davies, M.R.C.S. Eng., L.R.C.P. Lond. (Llanidloes); Mr. Nicholas W. Fairles-Humphreys, M.R.C.S. Eng. (Montgomery), fifteenth time; Mr. J. L. Davies, M.R.C.S. Eng., L.R.C.P. Lond. (Newport, Mon.); Mr. R. Jones Evans, M.R.C.S. Eng., L.R.C.P. Lond. (Pwllheli); Mr. J. Parkinson Atkinson, M.D. Glasg. (Saffron Walden), re-elected; and Mr. A. W. Limont, M.B., C.M. Edin. (Southport).—Mr. F. W. S. Stone was at the municipal elections at Dover returned at the head of the poll in an important ward. He has been chosen as deputy-mayor.

SOCIETY OF MEDICAL OFFICERS OF HEALTH: SCHOOL MEDICAL OFFICERS.—The first meeting of the School Medical Service group of the Society of Medical Officers of Health was held at 1, Upper Montague-street, London, W.C., the office of the society, on Nov. 7th, under the chairmanship of Dr. Alfred Greenwood. Dr. Robert Hughes, of Stoke-on-Trent, was elected chairman, Dr. Armly Ashkenny as honorary secretary, and Dr. C. W. Hutt, honorary treasurer. The committee of the group consists of the above three *ex-officio* members, together with one member from each of the 10 branches of the Society of Medical Officers of Health. The constitution of the group was discussed, and it was decided that all medical officers engaged in the School Medical Service be invited to join; and assistants in the service will have special consideration, [illegible] condemned as very inadequate considering the long, expensive, and arduous professional training, often lasting for ten years, and the responsible, onerous, and the rapidly increasing duties to be performed. It was pointed out that the Board of Education have admitted the inadequacy of salaries of medical officers in their circular letter to local authorities dated August 18th. Even with the promise of increased grants by the board for medical inspection, local education authorities were not likely to increase the salaries of the medical staff to any considerable extent, as desired by the board, unless all assistant medical officers combined in one body and unitedly claimed just treatment from local authorities. The group meeting therefore passed a resolution to the effect that the Society of Medical Officers of Health recommend the British Medical Association to accept no advertisement for a whole-time assistant school medical officer at a less sum than a commencing salary of £350 per annum. The next meeting of the group will be held on Saturday, Dec. 6th, at 2 P.M., at 1, Upper Montague-street, Russell-square, London, W.C. Assistants in the School Medical Service are requested to send their name and address, and anything that may be of interest to the service to Dr. Armly Ashkenny, honorary secretary, Medical Department, Education Office, Council House, Birmingham.

PATHOLOGICAL UNIVERSITY INSTITUTE, BERLIN.—This institution, of which Dr. Goldscheider is the director, has just been considerably enlarged. The clinical department now contains 56 beds, 15 of which are reserved for hydrotherapeutic treatment. In the out-patient department there are now eight assistant physicians.

A PLYMOUTH CENTENARIAN.—John Ryan died at Plymouth on Oct. 29th in his 104th year. He was born at Thurles, Tipperary, on June 24th, 1810, and went to Plymouth in 1851. He was wonderfully active for his age, and until two weeks previously to his death walked to church every Sunday.

A MEETING will be held on Tuesday, Nov. 18th, at 8.30 P.M., at 11, Chandos-street, W., to discuss the position of medical officers in His Majesty's prisons. The chair will be taken by Dr. W. Hugh Fenton. A resolution will be submitted calling upon the Home Office to cease to require the prison medical officers to act under the direction of the lay authorities in professional matters, and to abandon the practice of forcible feeding, which has proved futile, and which is only continued as a punishment.

GLASGOW UNIVERSITY CLUB, LONDON.—The winter dinner of this club will be held at the Trocadero Restaurant, Piccadilly Circus, on Friday, Nov. 28th, at 7.15 for 7.30 P.M., under the chairmanship of Sir William S. McCormick, secretary to the Carnegie Trust. Members intending to be present or to bring guests should give early notice to the honorary secretaries, Dr. David Roxburgh and Dr. Alexander Macphail, at 30, Seymour-street, London, W.

ROYAL SOCIETY OF ARTS.—The society will commence its 160th session on Nov. 19th with an address delivered at 8 P.M. by Colonel Sir Thomas H. Holdich, K.C M.G. Before Christmas there will be four meetings besides the opening meeting, the subjects and the names of the speakers being as follows: Zoological Gardens, by Dr. Chalmers Mitchell; Perfumery, by Mr. John Umney; Applications of Electricity to Agriculture, by Mr. Thorne Baker; and the Channel Tunnel, by Mr. Arthur Fell. There will be five courses of Cantor Lectures, of which one course consisting of three lectures on the Measurement of Strains in Materials and Structure will be delivered by Professor Coker on Dec. 1st, 8th, and 15th. During the Christmas holidays a course of juvenile lectures on wireless telegraphy will be given by Mr. Howgrave Graham.

ROYAL MEDICAL BENEVOLENT FUND.—At the October meeting of the committee 24 cases were considered and grants amounting to £181 made to 18 of the applicants. Appended is an abstract of the cases relieved :—

Widow, aged 48, of M.R.C.S., L.R.C.P. Practically unprovided for at husband's death 18 months ago, and is endeavouring to support herself by taking boarders. Two daughters, aged 18 and 9, the elder earning 12s. 6d. a week as a clerk, the younger at an institution. Relieved once, £10. Voted £10.—Daughter, aged 61, of late M.R.C.S. Was one of nine children at the death of her father 50 years ago, and for many years supported herself and helped her mother by acting as governess or school matron. Income only a few shillings a week, and is no longer able to obtain remunerative work. Voted £10.—Widow, aged 70, of M.D. Glasgow. Lost her husband six months ago, and finds that owing to depreciation in investments her income will be less than £10 a year. No children or relations able to give permanent help. Voted £18.—Widow, aged 55, of L.R.C.P., L.R.C S Edin. Lost her husband a few months ago after an illness lasting several years, during which she supported the family by taking lodgers. Five children, of whom four are still at school and the eldest has just obtained a bursary at a university. Voted £12.—Widow, aged 50, of M.R.C S. Quite unprovided for at recent death of husband from new growth, but hopes to support herself by obtaining paying guests. Voted £10.—L.S.A., aged 55. Has a very small practice in a London suburb, but has broken down in health and is ordered a holiday which he can ill afford. Voted £5.—Widow, aged 51, of M.D. Edin. Lost her husband some months ago after a long and painful illness which quite exhausted his small savings. Receives 3s. a week from a stepson and takes a lodger. Voted £10.—Widow, aged 46, of L.F.P S. Glasg. Supported herself for several years after her husband's death as a school matron, but was obliged to give up her post on account of progressive deafness. No income, and dependent on a widowed mother whose means are very small. Asks for assistance to cover the expenses of sending her only son in for the examination for a second mate's certificate. Relieved once, £10. Voted £10.—Daughter, aged 68, of late M.R.C.S. Was a nurse for many years, and now has a pension of £20 a year from another society. Relieved three times, £36. Voted £6.—Widow, aged 73, of M.R.C.S. Receives an old-age pension and slight help from her children, but asks for assistance towards expenses incurred through chronic ill-health. Relieved eight times, £96. Voted £12.—Daughter, aged 51, of late M.R.C S. *Has a small house at a low rent, letting rooms in the* summer and making sweets in the winter. Relieved twice, £20. Voted £12.—Daughter, aged 41, of late F.R.C.S. Has a stiff right shoulder-joint, which makes it very difficult to obtain regular and suitable employment. Relieved seven times, £84. Voted £12.—Daughter, aged 54, of late M.R.C.S. Used to be a nurse, but suffers from chronic glaucoma, and is now quite unable to support herself. Slight help from relations. Relieved five times, £45. Voted £10.—Widow, aged 73, of M.R.C.S. Receives an old age pension and 5s. a week from a charitable society. Relieved once, £12. Voted £9.—Widow, aged 47, of M.D. Assists at a boarding-house kept by a widowed sister, but receives no salary, and asks for help towards small expenses unavoidably incurred for her boy, aged 14. Relieved 14 times, £151. Voted £5.—Widow, aged 64, of L.R.C.S., L.R.C.P. Irel. Has a situation as cook, but finds the work so hard that she is obliged to give it up. Proposes to live with a son earning a small weekly wage and having five children. Relieved once, £5. Voted £12.—Daughter, aged 71, of late M.D. Is an inmate at a Home for Incurables, but has no means to meet small unavoidable expenses. Was an annuitant of this Fund until elected to the Home. Voted £6.—Daughter, aged 58, of late M.R.C.S. Is almost blind and entirely dependent upon a friend and the help given by this Fund. Relieved three times, £22. Voted £12.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, 41 and 43, Maddox-street, London, W.

Thirty Years in Kashmir. By Arthur Neve, F.R.C.S.E., Church Missionary Society. Price 12s. 6d. net.

BAILLIÈRE, TINDALL, AND COX, London.

Treatment by Hypnotism and Suggestion, or Psycho-Therapeutics. By C. Lloyd Tuckey, M.D. Aberd., Membre Fondateur de la Société d'Hypnologie, Honorary Member of the American Society for the Study and Cure of Inebriety; First President of the Psycho-Medical Society. Sixth edition, revised and enlarged, With a Foreword by Sir Francis R. Cruise, M.D., D.L., K.S.G., Honorary Physician to the King in Ireland. Price 10s. 6d. net.

BERGMANN, J. F., Wiesbaden.

Dynamische Biochemie. Chemie der Lebensvorgänge. Von Dr. Sigmund Fränkel, a.o. Professor fur Medizinische Chemie an der Wiener Universitat. Price M.18.60.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

From Girlhood to Womanhood. By Elizabeth Sloan Chesser, M.B. Price 2s. 6d. net.

Life and its Beginnings. By Helen Webb, M.B. Lond. Price 2s. 6d. net.

What a Boy Should Know. By A. T. Schofield, M.D., and Percy Vaughan-Jackson, M.D. Price 2s. 6d. net.

Before I Wed; or, Young Men and Marriage. By Sir Thomas Clouston, M.D., LL.D. Price 2s. 6d. net.

ENGELMANN, WILHELM, Leipzig und Berlin.

Geschichte der biologischen Theorien in der Neuzeit. Von Dr. Em. Rádl. I. Teil 2. ganzlich umgearbeitete Auflage. Price, paper, M.9; bound, M.10.

FISCHER, GUSTAV, Jena.

Handbuch der pathogenen Mikroorganismen. Herausgegeben von Dr. W. Kolle und Dr. A. von Wassermann. Zweite vermehrte Auflage. [illegible] Lieferung (Bd. III., [illegible] zigste Lief[illegible] sechzigste [illegible] und zwei[illegible] Titel und [illegible] Bd. VIII., S. 577-608). Price M.5 each.

Handbuch der Vergleichenden Physiologie. Herausgegeben von Hans Winterstein in Rostock. Siebenunddreissigste Lieferung. Band III. Physiologie des Energiewechsels, Physiologie des Formwechsels. Erste Hälfte. Seite 1133-1294. Price M.5.

Biochemie des Wachstums des Menschen und der höheren Tiere. Von Dr. Phil. et Med. Hans Aron, Assistenzarzt und Labora[illegible] Universitäts-Kinderklinik in [illegible] [illegible]be aus dem "Handbuch der [illegible] [illegible]ice M.2.50.

A[illegible] Von Prof. Dr. Th. Ziehen in [illegible] des [illegible] des "Handbuchs der Anatomie des [illegible] von Prof. Dr. Karl von Bardeleben. [illegible]ung, erster Teil.) Price M.14.

Die Cystenniere. Studien über ihre pathologische Anatomie. Von O. Berner, prosektor der Histologie an der Kgl. Frederiks-Universität zu Kristiania. Price M.25.

Handbuch der gesamten Therapie. In sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Fünfte Auflage. Lieferung I. (Probelieferung). Price M.1.

HIRSCHWALD, AUGUST, Berlin.

Klinik der Nervenkrankheiten. Ein Lehrbuch fur Aerzte und Studierende. Mit einem Vorwort von Prof. G. Klemperer. Von Dr. Leo Jacobsohn. Price M.19.

HOLZEL, ED., Luisengasse, 5, Wien, IV/2.

Das Problem des Verbruhungstodes. Studie zur Pathologie und Pathogenese der thermischen Allgemeinschädigung. Von Dr. Hermann Pfeiffer, a.o. Professor fur allgemeine und experimentelle Pathologie an der k.k. Universitat Graz. Price M.8; K.9.60.

KLINKHARDT, DR. WERNER, Liebigstrasse, 2, Leipzig.

Urologischer Jahresbericht, einschliesslich der Erkrankungen des *männlichen Genitalapparates. Literatur 1912.* Redigiert von Prof. Dr. A. Kollmann in Leipzig und Dr. S. Jacoby in Berlin. Price, paper, M.21; bound, M.23.

KIMPTON, HENRY, London [illegible]
Malaria: Etiology, I [illegible] Treatment. By Grabam [illegible] ion by Charles C. Bass, [illegible] dicine, Medical Departme [illegible] Price 10*s.* 6*d.* net.
The Diseases of Children. By Henry Enos Tuley, M.D., late Professor of Obstetrics, University of Louisville, Medical Department; ex-Secretary and ex-Chairman of the Section on Diseases of Children, American Medical Association. Second revised edition. Price 24*s.* net.

LEHMANN, J. F., Munich.
Die Chirurgie in Einzeldarstellungen. Herausgegeben von Professor *Dr. Rudolf Grashey in München. Die Praxis der* [illegible] und Bild. I. Band: Die Vor- [illegible] an den Gallenwegen und die [illegible] vege-Chirurgie. Von Professor [illegible] in Berlin. Price, paper, M.28; bound, M.[illegible]

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.
[illegible] How to Prevent or Stop [illegible] B.A. Cantab., M.R.C.S., the Diagnosis of Small-pox and Medical Superintendent of the River Ambulance Service (Small-pox) of the Metropolitan Asylums Board. Price 3*s.* 6*d.* net.

Appointments.

Successful appli [illegible] *of Public Institutions, and others* [illegible] *for this column, are invited to* [illegible] *directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADAMSON, A. F., M.B., Ch.B. Edin., has been appointed Junior [illegible] um.
[illegible] has been appointed a [illegible]
[illegible] .S Eng., has been appointed Demonstrator of Surgical Anatomy at Westminster Hospital Medical School.
D'ALTON, J., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Banagher District of King's County.
F [illegible]
F [illegible] Liverpool.
HALL, J., M.B., B.Ch R.U.I., has been appointed House Surgeon at the Royal Victoria Hospital, Belfast.
HENDERSON, JOHN, M.D., Ch.B. Glasg., F.R.F.P.S. Glasg., has been appointed Lecturer-Examiner in Clinical Medicine in the University of Glasgow.
MOXON, FRANK, M.B., B.S. Durh., has been appointed Honorary Ophthalmic Surgeon to the St. Marylebone General Dispensary
NIX, R. E., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the [illegible]ris District of [illegible]
[illegible] Lecturer on [illegible]
[illegible] inted Senior [illegible]
[illegible] Joint Tutor in [illegible]
[illegible] g., has been [illegible] spital Medical School.
TYRRELL, W., M.B., B.Ch R.U.I., has been appointed House Surgeon at the Royal Victoria Hospital, Belfast.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARGYLE AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, and laundry.
BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—House [illegible] Salaries at the rate [illegible]
[illegible] Cambridge Heath, E. [illegible] s. Salary at rate of [illegible] board, residence, and washing.
BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for three months. Salary at rate of [illegible]
[illegible] —House Surgeon.
[illegible] CONSUMPTIVES.— [illegible] Salary £150 per [illegible]
[illegible] Medical Officer of [illegible] £500 per annum. [illegible] House Physician, [illegible] ments, board, and laundry.
BRIS[illegible] on for six months for [illegible] nnum, with board, apartments [illegible] Surgeon for six months. [illegible] board, apartments, and laundry. Also Honorary Assistant Physician.
BURY AND DISTRICT JOINT HOSPITAL BOARD.—Assistant Medical Superintendent. Salary £200 per annum, with board, washing, and lodging.
CAMBERWELL INFIRMARY AND CHILDREN'S HOMES.—Assistant Medical Officer. Salary £180 per annum, with apartments, board, and washing.
CAMBRIDGESHIRE COUNTY COUNCIL.—Tuberculosis Officer. Salary £300 per annum.
[illegible] washing. [illegible] annum.
COLCHESTER [illegible] £100 per [illegible]
CORNWALL [illegible] Salary £[illegible] per annum.
DERBY, DERBYSHIRE ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, &c.
DINAS MAWDDWY BOARD OF GUARDIANS.—Medical Officer, &c. Salary about £110 per annum.
[illegible] Officer. [illegible] narried. [illegible] Officer.
DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £100 per annum, with residence, board, and washing [illegible]
EAS[illegible]
EAS[illegible]
GA[illegible] board, and laundry.
GATESHEAD UNION, WHINNEY HOUSE ESTABLISHMENTS AT SHOTLEY [illegible]
[illegible] months. [illegible] dis. [illegible] for six [illegible]
KELLING SANATORIUM, Norfolk.—Assistant Resident Medical Officer, unmarried. Salary £70 per annum, with board, lodging, and laundry.
KENSINGTON AND FULHAM GENERAL HOSPITAL, Earl's Court, S.W.— [illegible]
[illegible] berstone.—Junior [illegible] Salary at rate [illegible] —House Surgeon. [illegible] ssistant Resident [illegible] with board and residence.
LONDON LOCK HOSPITAL.—Assistant House Surgeon. Salary £80 per [illegible] House Surgeon to [illegible] per annum, with [illegible] House Surgeon and [illegible] er annum respec- [illegible]
MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.
MANCHESTER [illegible] TMENT OF TUBERCULOSIS. [illegible] d. Salary £200 per annum, [illegible] Medical Assistant, [illegible]
[illegible] UMBERLAND SANATORIUM FOR [illegible] Tyne.—Resident Medical Officer, [illegible] num, with board, residence, and laundry.
[illegible] Medical Officer. Salary [illegible]
[illegible] L.—Resident Surgical [illegible] geon for six months. [illegible] residence, board, and laundry.

OXFORD COUNTY ASYLUM, Littlemore, near Oxford.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

PADDINGTON INFIRMARY.—Second Assistant to Medical Superintendent of Infirmary and Medical Officer of Workhouse. Salary at rate of £140 per annum, with board, lodging, and washing.

POOLE, BOROUGH OF.—Medical Officer of Health. Salary £400 per annum.

POPLAR TRAINING SCHOOL, Hutton, Essex.—Visiting Dentist. Salary £60 per annum.

PORTSMOUTH ROYAL HOSPITAL.—House Physician for six months. Salary £80 per annum, with board, &c.

RICHMOND, SURREY, ROYAL HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board, apartments, and washing.

ROUSAY AND EGILSHAY, PARISH OF.—Resident Medical Officer. Salary £71 per annum.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Election to the Court of Examiners.

ROYAL EAR HOSPITAL, 42 and 43, Dean-street, Soho, London.—House Surgeon. Salary £40 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Clinical Assistants for six months.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Radiographer. Salary £40 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer for six months. Salary at rate of £70 per annum, with residence, board, and laundry.

ST. PANCRAS WORKHOUSE AND SOUTH INFIRMARY, Pancras-road, N.W.—Female Junior Assistant Medical Superintendent. Salary at rate of £100 per annum, with apartments, rations, and washing.

ST. PETER'S HOSPITAL FOR STONE, &C., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board, lodging, and washing.

SCALEBOR PARK ASYLUM, Burley-in-Wharfedale.—Assistant Medical Officer. Salary £200 per annum, with board, apartments, attendance, &c.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon for six months. Salary £80 per annum, with board and residence.

SMETHWICK, CORNWALL WORKS DISPENSARY.—Assistant Medical Officer.

STIRLING ROYAL INFIRMARY.—Resident House Surgeon. Salary £100 per annum, with board.

SURREY COUNTY COUNCIL EDUCATION COMMITTEE.—Three Assistant School Medical Officers. Salary £400 per annum each.

SWANSEA UNION WORKHOUSE.—Assistant Medical Officer. Salary about £260 per annum.

TAUNTON, SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, attendance, &c.

UNIVERSITY COLLEGE HOSPITAL, Gower-street, W.C.—Assistant in the Clinical Pathology Department. Salary £100 per annum, with luncheon.

UNIVERSITY OF LONDON.—Examiners.

UNIVERSITY OF LONDON, KING'S COLLEGE.—Demonstrator of Anatomy. Salary £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, and washing.

WALSALL AND DISTRICT HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, residence, and laundry.

WEST RIDING COUNTY COUNCIL.—School Oculist. Salary £300 per annum. Also Three School Dentists. Salary £250 per annum. Also Three School Medical Inspectors. Salary £300 per annum.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with rations, apartments, and washing.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Acts at Clackmannan, in the county of Clackmannan.

Births, Marriages, and Deaths.

BIRTHS.

VERNON.—On Nov. 6th, at Wordsworth Lodge, Shirley, Southampton to Dr. and Mrs. Rupert Vernon, a daughter.

MARRIAGES.

DICK—WALLACE.—On Nov. 8th, at Highgate Presbyterian Church, James Reid Dick, M.B., B.C. Cantab., to Davina Orford, daughter of William Wallace, of Highgate, N.

SYMNS—SOWTER.—On Nov. 6th, at All Saints', Notting Hill, James Llewellyn Montfort Symns, B.A., M.B., B.C. Cantab., to Claire Hickling Dart Sowter, eldest daughter of John Sowter, of Derby.

THOMAS—PATERSON.—On Nov. 1st, at Upwey, Dorset, Robert Evans Thomas, M.D., to Mary, youngest daughter of the late William Paterson, of Dorchester, and of Mrs. Paterson, of Upwey, Dorset.

DEATHS.

CLENDINNEN.—On Nov. 6th, at Park-lane, Frederick J. Clendinnen, M.D., of Melbourne, Australia.

ROBINSON.—On Oct. 8th, suddenly, at Colombo, Morris de Lancey Robinson, M.D., B.S., D.P.H., aged 32 years.

SWEETING.—On Nov. 10th, at Fernshaw Mansions, S.W., Richard Deane Sweeting, M.D., Barrister-at-Law, Senior Medical Inspector, H.M. Local Government Board, Whitehall. Funeral private. No flowers, by special request.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SO-CALLED RITUAL MURDER.

To the Editor of THE LANCET.

SIR,—Mendel Beiliss, the Jew, has been acquitted at Kieff of the murder of the Christian boy, Yushinsky. This verdict therefore confirms the verdicts of previous generations in modern times. With reference to my letter in THE LANCET of Nov. 8th, quoting John Timbs, a further reference to the case at Damascus will be found in "The Historic Note-Book," by the Rev. E. Cobham Brewer, LL.D., published by Smith, Elder, and Co. in 1891. It runs as follows:—

> Jews of Damascus (Persecution of the), 1840. A Catholic priest named Thomaso of Damascus, having disappeared suddenly in February, a Jew barber at whose house he was seen was examined by torture, when he accused seven of the most wealthy Jewish merchants of being concerned in the murder. The seven merchants were apprehended; two died under torture, the other five pleaded guilty. A dreadful persecution of the Jews followed, and the absurd notion was confirmed that human blood was necessary for the paschal feast. The English and French interfered, represented to Mehemet Ali the absurdity of the notion, and the persecution ceased.

References to this matter are not easy to find, and the above is the only one which relates to it so far as my search goes. It is possible that the superstition arose from, or was inflamed by, the misinterpretation of symbolic pictures by the ignorant populace. In an old Jewish book discovered by a fourteenth century alchemist there was a picture of a king standing by while his soldiers killed the children of weeping mothers, together with allegorical pictures of the sun and moon bathing in their blood in a bowl. Reference will be found in "Popular Delusions," by Chas. Mackay, LL.D., published in 1856.

I am, Sir, yours faithfully,

Nov. 11th, 1913. A GENTILE.

NYASALAND HEALTH REPORT.

A REPORT on the Blue-book of the Nyasaland Protectorate (which comprises the eastern portion of British Central Africa) for the year 1912–13 has been issued by the Colonial Office as a Parliamentary paper. The European population, it states, is now 758, as against 773 in 1911–12. The native population is estimated at 1,020,537. The Asiatic population amounts to 356, as compared with 463 in the previous year, the decrease being accounted for by the disbandment of the Indian contingent of the 1st Battalion King's African Rifles and the consequent return of the troops to India. Twenty seven European births were registered, as against 24 in the preceding year. The number of deaths of Europeans and Asiatics registered during the year amounted to 11 and 7 respectively, as compared with 7 and 8 in the preceding year. The European birth-rate was 35·62 and the death-rate 14·51 per 1000. Seven European marriages were celebrated. The health of the native population has been on the whole satisfactory, and there was complete immunity from serious epidemics during the year. The Royal Society's Commission has continued its investigations at Kasu in the vicinity of the sleeping sickness area. Up to the end of March, 1913, 126 cases of sleeping sickness have been recorded in the Protectorate, and during the year under review 63 cases were diagnosed, as compared with 25 in the previous year and 30 in the year preceding. Of the 63 cases diagnosed during the past year, 40 were males and 23 females. The increase in 1912–13, as compared with 1909–10 and 1910–11, is noteworthy; it would, however, be premature to draw deductions therefrom at this date, especially when it is remembered that, as the natives become accustomed to the presence of medical officers and have now no fear of cases being deported to a segregation camp, there is less likelihood of concealment of the sick as time goes on, and therefore the chances of finding a larger proportion of the infected will be correspondingly increased. The immunity of the native population from small-pox has been a satisfactory feature of the public health during the year, and though outbreaks of a sporadic character have been reported they have been due solely to infection having been conveyed from adjoining territories, and the disease in every instance has been rapidly checked. This satisfactory state of affairs is the result of the widespread and thorough vaccination which has been carried out during recent years and which is being continued throughout the Protectorate. The widespread existence of ankylostomiasis in the North Nyasa district formed the subject of investigation during the year, and it is intended to apply the District Administration (Native) Ordinance to this district with the special object of enabling Government to introduce a system of deep-trench latrines throughout the native villages. It is hoped that by this means the percentage of infected natives will be reduced and the physical condition of the natives improved. The danger to be apprehended from the employment of Nyasaland natives as labourers in the South Africa mines and their return to the Protectorate with tuberculous infection is evidenced by the results of the medical examination of 1274 natives repatriated from the Transvaal mines during the year. It was found that no less than 3 per cent. were actually phthisical, while 9 5 per cent. were returned as suspicious cases.

SULPHUR AND TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Oct. 18th there is an annotation on the supposed preventive action of sulphur fumes on the development of tuberculosis. The week after this article appeared an old lady came to one of my branch dispensaries with a patient whom she had been treating by the novel method of rubbing flowers of sulphur into the back daily. She proudly pointed out that the patient had gained three pounds in weight during the first fortnight of treatment. This unqualified practitioner also informed me that she had "cured" many cases of cancer and consumption by this method, combined in the latter disease with the "breathing in" of sulphur fumes. Her only egret was that patients would not always submit to the inhalation reatment—the majority preferring the disease to the remedy.

I may add that I have not yet seen any of the cases "cured by this nteresting survival of the methods of Galenic medicine.

I am, Sir, yours faithfully,
R. C. HUTCHINSON,
Tuberculosis Officer for Carmarthenshire and
Carmarthen, Nov. 6th, 1913. *Cardiganshire Area.*

WOMEN AND SOCIAL HYGIENE.

THE *Gentlewoman* in its issue of Nov. 1st urges upon its readers the desirability of their entering on a crusade to instruct the people on the preciousness of human life, and to teach the simple hygienic rules whereby immense loss and suffering can be obviated. This, it points out, can be done without poking into little homes and upsetting mothers. It would have them begin with the educational authorities, not troubling themselves about the curriculum of a school, which can safely be left to the head masters and mistresses, but insisting that the school shall be run on hygienic principles, by urging the use of tooth-brush drill, the separation of tuberculous from non tuberculous children, and the adjustment of the hours of study to the health of the child.

THE INCORPORATED ASSOCIATION OF HOSPITAL OFFICERS.

AN interesting programme has been arranged for the Twelfth Session of the Incorporated Association of Hospital Officers which has for its objects the social intercourse of hospital officials, the study of hospital construction, equipment, and management, and other matters affecting the duties and responsibilities of hospital officers. Monthly meetings are held at the association's headquarters, 62, Chandos-street, Covent Garden. A conference has been arranged for March next between the association and the Poor-Law Officers' Association, and the Saturday afternoon visits include the most recently erected hospitals, concluding in June next with a visit to Birmingham and its hospitals.

PHARMACEUTICAL STUDENTS AND COMPULSORY LATIN.

THE council of the Pharmaceutical Society has amended in several respects the regulations concerning the registration of pharmaceutical students, the most important of the alterations being the deletion of Latin from the list of the compulsory subjects of the entrance examination. This decision is a sign of the times, and when one recalls that only 60 years have gone by since the London Pharmacopœia was issued in Lati [illegible] rapidly. The decadence of Latin [illegible] began in 1864, when the British [illegible] lished in English, and has lately been hastened by the educational policy of the schools from which chemists' apprentices are mostly drawn. Latin is not taught in these schools as an ordinary subject, and the result is that many a boy well suited to begin to learn pharmacy has chosen some other business for the simple reason that he could not pass an examination in Latin. The dropping of Latin from the compulsory part of the syllabus of the preliminary examination is, in fact, a corollary of the neglect of that subject by the secondary schools, and if blame is due to anyone for the council's decision it is to the schoolmasters. It is essential that there should be a steady flow of pharmaceutical students, preferably with a knowledge of Latin, but the flow must be maintained, and if Latin is clogging the stream it must go. In nearly all other countries the same tendency is observable, in Germany the Pharmacopœia is published in German, in France in French, in Italy in Italian, in Spain in Spanish, in Russia in Russian, in Sweden in Swedish. In Japan the last Latin edition of the Pharmacopœia was published in 1891, the present edition being in Japanese with an English translation. The new Norwegian Pharmacopœia is in the native tongue, and although the Pharmacopœia of Holland is issued simultaneously in Latin and Dutch, and the Belgian Pharmacopœia in Latin and French, few thumb marks would probably be found on the Latin pages of those in use. The same tendency is to be observed in the practice of prescribers, although the Latin prescription seems to die harder in this country than elsewhere. Notwithstanding, however, that Latin is no longer a compulsory subject for pharmaceutical students, they would be well advised to act upon the recommendation of the Pharmaceutical Society's council and take Latin as an optional subject. For candidates for the qualifying examination will still be required to pass a test in prescription reading which necessitates a knowledge of Latin, or at least a bowing acquaintance with it.

THE CASE OF MR. H. T. HAMILTON.

To the Editor of THE LANCET.

SIR,—To the donations already acknowledged (i.e., £54 5*s.*) I have now to add the following. Dr. Vaughan-Pendred, East Sheen, 10*s.* 6*d.*; Dr. E. B. Denny, East Barkwith, Lincs, £3 3*s.*; and Dr. Deane, Lincoln, £3 3*s.* I am, Sir, yours faithfully,
W. H. GIMBLETT, M.D.
86, Sutherland-avenue, Maida Vale, W., Nov. 11th, 1913.

THE MAGAZINE OF THE ROYAL FREE HOSPITAL (SCHOOL OF MEDICINE FOR WOMEN).

THE annual meeting of subscribers to this magazine will be held at the Medical School, 8, Hunter street, W.C., on Thursday, Dec. 11th, at 4.30 P.M. All subscribers are cordially invited to be present.

COPYING PENCILS.

Messrs. Hardtmuth, Limited, of Koh I noor House, Kingsway, London, W.C., have sent us some of their "Mephisto" copying pencils, which they suggest will be found of service for duplicating reports under the National Health Insurance Act, and for any other purposes where indelible writing is required. From our own trial of the pencils, which are quite inexpensive, we agree with the professed claim.

A NEW MAP OF LONDON AND ENVIRONS.

A PRACTICAL working map of London, which includes on one sheet as wide a stretch of territory as from Harrow, Heston, Twickenham, Teddington, and Hampton on the west, to Chadwell Heath, Erith, Bexley, and Chislehurst on the east, and from Tottenham and Walthamstow on the north, to Kingston, Merton, Croydon, and Bromley on the south, is Stanford's "New Two Inch Map of London and its Environs" (price 5s. 6d.). A scale of 2 inches to the mile, in the hands of such skilful map-makers as Stanford's, gives scope for very considerable detail, and the names of streets are legible. The size of the map is 42 by 25½ inches, and it is printed on a tough paper that apparently will stand a good deal of wear and tear.

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A.B.C.—As to the prospects of British medical graduates for practice in British Columbia, it should be borne in mind that there is a fairly good supply of young Canadian graduates. Moreover, though their *average* literary and professional standard may be a trifle below the *average* in this country, it must not be forgotten they are as a rule better equipped for the business side of practice This is due partly to the fact that the average age for qualification is a little older, many of them supporting themselves by various business employments and earning the money for their medical curriculum.

G.M.S.—The reference to a previous issue which appeared in the paragraph on "Vaccination in the West of England" in our last issue was to THE LANCET of Oct. 25th, 1913, p. 1217.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced.

In 1913:—
Nov. 7th–15th (London, Olympia).—Twelfth International Motor Exhibition.
Dec. 16th–20th (Aberdeen).—Red Cross and National Health Service Exhibition.

In 1914:—
April 14th–18th (New York).—Fourth Congress of the International Surgical Society.
May 1 [illegible] yal
July [illegible]
" 8th–13th (Edinburgh).—Congress of the Royal Institute of Public Health.
Aug 3rd–8th (London).—Sixth International Dental Congress.
" 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.
September (Vienna).—Third International Congress for Diseases of Occupation.
(London).—Anglo-American Exhibition.
(Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
[illegible] Congress [illegible] Pure and Applied [illegible]

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Dr. D. H. Scott, foreign secretary to the Royal Society: On Medullosa Pusilla.—Prof. A. F. S. Kent: Neuro-muscular Structures in the Heart (communicated by Prof. C. S. Sherrington).—Mr. G. Graham and Mr. E. P. Poulton: The Alleged Excretion of Creatine in Carbohydrate Starvation (communicated by Dr. F. G. Hopkins).—Mr. J. A. Gardner and Mr. P. E. Lander: The Origin and Destiny of Cholesterol in the Animal Organism. Part XI., The Cholesterol Content of Growing Chickens under Different Diets (communicated by Dr. A. D. Waller).—Mr. W. E. Bullock and Mr. W. Gramer: Contributions to the Biochemistry of Growth—On the Lipoids of Transplantable Tumours of the Mouse and the Rat (communicated by Sir J. R. Bradford, secretary to the Royal Society).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: W. Langdon Brown, Philip Hamill): at 4.30 P.M.

Papers:

Dr. F. Ransom: Diabetic Gangrene and Excretion of Calcium.
Dr. R. W. Leftwich: On Uniformity of Dosage.

GENERAL MEETING OF FELLOWS at 5 P.M.

Ballot for Candidates for Fellowship.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, C. Price-Jones): at 8.30 P.M.

Dr. R. A. Chisolm:
Dr. Warren Crowe: The Primary Cause of Rheumatoid Arthritis.
Dr. E. P. Minett: The Pathogenicity of an Organism Isolated from Non-ulcerating Cancerous Growths (communicated by Dr. J. W. H. Eyre).

WEDNESDAY.

SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—Raymond Crawfurd, D'Arcy Power): at 5 P.M.

Dr. Charles Singer: St. Hildegarde.
Dr. John Rolleston: Medical Aspects of the Greek Anthology (Part I.).
Dr. Raymond Crawfurd will show a collection of "Touch Pieces."
Dr. F. W. Cock will show some Old Surgical Instruments.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 5 P.M.

Cases:

Sir Malcolm Morris and Dr. Dore: Case for Diagnosis.
Dr. Pringle: (1) Case of Mycosis Fungoides; (2) Case of Disseminated Lupus Erythematosus
Dr. Adamson: (1) Acute Multiple Lupus Vulgaris in an Adult Simulating Lupus Erythematosus; (2) Case of Mycosis Fungoides.
Dr. Walsh: Case of Epidermolysis Bullosa.
Dr. Dudley Corbett: A New Radiometer.
Dr. Haldin Davis; Case of Psoriasis in an Infant aged Six Weeks.
Dr. Pernet: (1) Case of Verrucose Tuberculosis Cutis following Measles; (2) Case of Prurigo in a Boy; (3) Case of Dermatitis Artefacta.

FRIDAY.

SECTION OF OTOLOGY (Hon. Secretaries—G. J. Jenkins, G. N. Biggs): at 5 P.M.

Cases:

Will be shown by Dr. W. H. Kelson, Mr. F. Muecke, Mr. G. J. Jenkins, and others.

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, S. Gilbert Scott): at 8.30 P.M.

Discussion

On the Technique and Standardization of Bismuth Meals. Opened by Dr. Reginald Morton.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Adjourned Discussion on the Treatment of Neurasthenia. Speakers:—Dr. Mennell, Dr. C. Fothergill, Mr. E. Clarke, Dr. S. A. K. Wilson, Dr. Branson, and others.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4 30 P.M. Meeting. 5.15 P.M., Discussion on Chronic Lupus (opened by Dr. W. Griffith).

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Paper:—Mr. C. Frankau: Pyelitis. A discussion will follow.

ROYAL METEOROLOGICAL SOCIETY, Institution of Civil Engineers, Great George-street, Westminster, S.W.

WEDNESDAY.—7.30 P.M., Papers:—Mr. W. H. Dines: The Daily Temperature Range at Great Heights.—Mr. H. Harries: Eddy Wind of Gibraltar.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Paper:—Dr. M. Watson: The Prevention of [illegible]

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Communications:—Mr. F. W. Chapman: Notes on the Shell Structure in the Genus Lingula—Recent and Fossil.—Mr. J. C. Kershaw: Development of an Embiid.

PLYMOUTH MEDICAL SOCIETY, Athenæum Chambers, Athenæum-lane, Plymouth.

SATURDAY.—8.30 P.M., Discussion on the Treatment of Suppurating Appendicitis (opened by Dr. H. W. Webber).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

THURSDAY.—3 P.M., Annual Meeting of Fellows and Members.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. M. H. Gray: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. J. Crookshank: Epilepsy and Epileptics.
TUESDAY.—4 P.M., Dr. J. Taylor: Clinique (Medical). 5.15 P.M., Lecture:—Mr. H. Chapple: Some Effects of Chronic Intestinal Stasis on the Female Generative Organs.
WEDNESDAY.—4 P.M., Mr. J. K. Murphy: Clinique (Surgical). 5.15 P.M., Lecture:—Sir George Savage: Post Influenzal Neuroses.
THURSDAY.—4 P.M., Dr. T. G. Stewart: Clinique (Medical). 5.15 P.M., Lecture:—Mr. M. L. Hepburn: Some Points in the Ophthalmology of General Practice.
FRIDAY.—4 P.M., Dr. J. D. Grant: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Med[illegible] [illegible]tration of Cases in Wards. 12 noon, Dr. [illegible] Demonstration. 2 P.M., Medical and Surg[illegible] Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Pritchard: Treatment of Infective Processes.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., [illegible] Rays. Mr. Baldwin: Operations. [illegible] Nose, and Ear. Dr. Pernet: [illegible] [illegible]ture:—Dr. Pritchard: Treatment of Infective Processes.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Pritchard: Treatment of Infective Processes.
THURSDAY.—10.30 A.M., Dr. Simson: Gynæcological Demonstration Dr. Owen: Demonstration at Victoria Park Hospital. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Pritchard: Treatment of Infective Processes.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: C[illegible] [illegible] Rays. [illegible] Nos[illegible] [illegible]ture [illegible] ment of Infective Processes.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.
TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine.
WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4 30 P.M., Mr. C. C. Choyce: Surgery. 4.30 P.M., Special Lecture:—Mr. C. C. Choyce: Some Varieties of Arthritis.
THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Sir StClair Thomson: Syphilis of the Nose and Throat.
FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine 3.15 P.M., Mr L. McGavin: Surgery. 3.15 P.M., Special Lecture:—Mr. L. McGavin: Some Causes of Intestinal Obstructions and their Surgical Treatment.
SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cli [illegible] Gillespie). Nose, Thr [illegible] Pathology [illegible]

TUESDAY.—Cl [illegible]

WE [illegible]

[illegible] Brooks). [illegible]

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON) Clinical Theatre, London Hospital, Mile End-road, E

Course of Lectures on the Neuroses and Psychoses of Children:—

TUESDAY.—2 P.M., Dr. F. Warner: Children of Nervous Type.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Perkins: The Recognition of Latent and Arrested Pulmonary Tuberculosis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3 30 P.M., Clinical Lecture:—Dr. H. Howell: Progressive Muscular Atrophy.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. H. Howell: Cerebellar Disease.

THE THROAT HOSPITAL, Golden square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.

TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Mr. J. B. Mac- [illegible]

[illegible] P.M., Mr. J. H. Ray [illegible]

[illegible] P.M., Dr. A. Renshaw: Neosalvarsan.

FRIDAY.—ROYAL EYE HOSPITAL—4 30 P.M., Dr. McNabb: Optic Neuritis and Atrophy.

UNIVERSITY OF SHEFFIELD POST-GRADUATE CLINICAL DEMONSTRATIONS.

TUESDAY.—SHEFFIELD ROYAL HOSPITAL.—3 P.M., Mr. G. Simpson: Diseases of the Testicle.

FRIDAY.—SHEFFIELD ROYAL HOSPITAL.—3 P.M., Dr. E. F. Skinner: The Vaccine Therapy of Skin Diseases.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: Multiple Pregnancy. [illegible]

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.				TO THE COLONIES AND ABROAD.			
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(Taken daily at 8 30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 12th, 1913.

Date	Barometer reduced to *Sea Level* and 32° F.	Direction of Wind	Rain fall.	Solar Radio in Vacuo	Maximum *Temp* Shade	Min Temp	Wet Bulb	Dry Bulb.	Remarks.
Nov. 6	29·45	S.W.	...	69	53	45	46	48	Overcast
" 7	29 59	N.	0 06	66	52	42	43	44	Cloudy
" 8	29 63	S E.	0 05	83	55	44	48	49	Raining
" 9	29·76	N.E.	0 02	73	54	41	48	50	Fine
" 10	29 68	S.	0 03	63	57	50	54	54	Overcast
" 11	29 49	E.	0 30	77	59	50	51	51	Raining
" 12	29 31	S W.	0·10	78	57	51	53	55	Cloudy

Th [illegible] have been received:— [illegible] Medical Sciences, [illegible] Review, Annals of Tropical Medicine British Journal of Children's [illegible] Bulletins et Mémoires de la [illegible] is, Archives of Pediatrics, [illegible] ysiology, Maryland Medical [illegible] uth African Medical Record, [illegible] Médecine et de Pharmacie Militaires, Archiv für Experimentelle Pathologie und Pharmakologie, Canadian Journal of Surgery, Revista de los Hospitale (Montevideo).

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ON

THE ORIGIN AND GROWTH OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Delivered on the Occasion of the Opening of the American College of Surgeons,

BY SIR RICKMAN J. GODLEE, BART.,
M.S. LOND., F.R.C.S. ENG., &c.,
SURGEON-IN-ORDINARY TO H.M. THE KING; SURGEON, UNIVERSITY COLLEGE HOSPITAL, ETC.

GENTLEMEN,—At the beginning of the fourteenth century your ancestors and mine were living side by side—probably many of us have common ancestors—in those small islands from which I come. From which I come in response to your call, on a mission so honourable and responsible that, much as I appreciate the honour done to my College and to myself as its representative, I almost sink under the burden of its responsibility. I refer to this date because it has been suggested that some account of the origin and growth of the Royal College of Surgeons of England might be interesting to this assembly. Our attention is therefore for the moment fixed upon London and upon the earliest records of any attempt to regularise the practice of surgery in that already ancient capital of the British Empire.

THE GILDS OF BARBERS AND OF SURGEONS.

It is difficult for any of us, and most of all for you who have discarded almost all pomps and ceremonies, to visualise old England, primitive but stately, in 1308, the year after that weak King Edward II. had succeeded his politic and warlike father. It was near the end of the Middle, or the Dark, Ages. The new Parliament of Lords and Commons had hardly begun to make its influence felt upon the feudal system. The echo of the Crusades had scarcely died away in Europe, and England was constantly at war with France or Scotland. Everyone of any consequence bore arms, suits of mail and swords and bows. In fact, the military spirit pervaded everything, including the Church, and art and science were under a dark cloud.

Medicine was not in advance of the other sciences. Its practitioners were for the most part monks, or, if not ecclesiastics, cloaked their ignorance by the gravity of their semi-clerical attire.

In these early days surgery was regarded as a mere handicraft—much less dignified than medicine. For long surgeons were associated in the popular mind with the barbers, and even 200 years later we find them placed in the same list as "comon bakers, bruers or scryvenors." The barbers let blood and did other minor surgical operations, and those surgeons who belonged to the Barbers' Gild were not above scraping a chin or clipping a poll in their spare moments. Both trades were largely recruited from the continent, and both, no doubt, contained many undesirable aliens. Thus it was that Richard le Barbour, living opposite the church of All Hallows the Less, was elected and presented by the barbers of London, on Tuesday the Feast of St. Lucy the Virgin (Dec. 13th, New Style), 1308, to Nicholas de Faryngdon, then Mayor of London, and was appointed Supervisor of the Gild, and swore the Barbers' oath, from the words of which it may be gathered that there were some very black sheep indeed in the profession in those days. This is the first mention in the City Records of the Barbers' Gild.

The better class of surgeons, known as the master surgeons, apparently held aloof and formed themselves into another association called the Gild of Surgeons. When this Gild of Surgeons was founded it is impossible to say, but we know that by 1368 surgeons were recognised as a distinct body, and in 1492 they were granted arms (the original of which is still preserved in Barbers' Hall). I prefer the words of their license to those of the Barbers' oath. They promised "well and truly to serve the people in their cures, to take of them reasonable fees, to exercise their mystery [which means *mestier* or trade] faithfully, to report to the Mayor and Aldermen any surgeon neglecting his patients, and to give information to the city officers of the hurt, wounded, or otherwise in peril of death."

The Origin and Development of Gilds.

It is interesting to think of the origin of these Gilds, although it is one of those doubtful questions which are the delight of speculative historians. Perhaps it is to be sought in the purely pagan and Scandinavian idea of wergeld, or the price of blood, or possibly it is founded on the Christian idea of brotherhood. Be that as it may, we find in England soon after the Norman Conquest, over and above religious gilds with which we have nothing to do, [illegible] what was known [illegible] ion distinct from the municipality for the protection of trade in general. From the gild merchant, as it were by a *process of fission* (like that which perhaps unfortunately is taking place so frequently in our own profession to-day), were separated the gilds of particular crafts. As these grew more powerful and more numerous the parent body became superfluous and obsolete and gradually disappeared. The gilds then were associations or fraternities of all the artisans of a single branch of industry in a particular town for mutual protection and support, for the supervision of the craft and regulating the hours of labour. They always retained something of the religious element. Charity and almsgiving in sickness and old age were never forgotten, and brotherly feasts or banquets appear to have been the *sine quâ non*.

In London these gilds in the course of time gave place to the City Companies. They became very important bodies, they elected and still elect the Lord Mayor and Corporation, and had judicial functions independent of the Crown.

In the time of Edward III. everyone belonging to a craft was obliged to join a company; and surgery being recognised as a craft it was essential that surgeons should either join the gild or company to which they were most closely associated—namely, the Barbers—or should form one of their own. As a matter of fact, as we have seen, both these courses were adopted.

The master surgeons, forming the Surgeons' Gild, who no doubt represented the *élite* of the profession, gradually gained strength and influence, and it is not surprising that considerable friction occurred between them and the barbers practising their minor surgery. It may be noted in passing that in those early days the master surgeons recognised the practice of women, and held some of their writings in high esteem, notably those emanating from the University of Salerno.

There is no time, and it would be tedious, to dwell upon the various steps by which the barbers became a City Company, acquired a coat of arms, and lived sometimes at peace but oftener at variance with the Gild of Surgeons. For the present also a passing reference only is made to the promising but unfortunately short-lived associated College of Medicine and Surgery and the establishment of the College of Physicians in 1518, on the model of the Paris College. To this and the disagreement between the two branches of our profession I will return later.

THE COMPANY OF BARBER-SURGEONS.

But now, leaving all this very ancient history, I will direct your attention to a period 200 years after the time of Richard le Barbour, when in 1542 or thereabouts the Barbers' Company and the Gild of Surgeons were incorporated as the Company of Barber-Surgeons.

These two centuries had been marked by universal and extraordinary progress. The dark ages had given place to the Renaissance or the revival of learning. Printing had been invented, rendering knowledge common property; gunpowder had been discovered; and the most important branch of the surgery of those days had thus been profoundly modified, while the general outlook of the world had been changed by the voyage of Columbus to your continent across the Atlantic. There were still frequent wars and rumours of wars. England itself had hardly settled down after the Wars of the Roses, but the military spirit was less preponderant. Our mutual forefathers were with much travail shaking off the tyranny of Rome, and the real spirit of the age was inspired by the cultivation of art, science, and the *literæ humaniores*.

Our own science had been revolutionised by Ambroise Páré, Paracelsus (that erratic genius), and others, and it is not to be wondered at that surgeons were becoming more important and perhaps more aggressive.

There was a tendency, from the point of view of concentrating force and avoiding friction, for the different City Companies to amalgamate. New economic conditions caused the pendulum to swing back, and diffusion again was giving place to concentration. It was to promote peace and secure uniformity that the new Company of Barber-Surgeons was formed, the outward and visible record of which is Holbein's notable picture in Barbers' Hall. To stand before it is to grasp the spirit of the age. Henry VIII. in gorgeous robes of State gazes loftily into space, as if with a soul above such trifles, holding a drawn sword in the right hand, while with the left he casually presents the charter to the kneeling barbers and surgeons, appropriately clad in their black caps and flowing fur-tipped robes. Amongst them is to be seen Thomas Vicary, the first Master. This was the gentle-minded Thomas Vicary, sergeant-chyrurgeon to the King and overseer of all the officers at St. Bartholomew's Hospital. He was the author of "The Englishman's Treasure with the True Anatomie of Man's Body," in which, amongst other noble thoughts, he gives this sound advice to surgeons:—

> And see they neuer prayse themselves for that redoundeth more to their shame and discredite than to their fame and worship: For a cunning and skilful Chirurgeon neede neuer vaunt of his doings, for his works wyll euer get credite ynough. Likewise that they despise no other Chirurgeon without a great cause: for it is meete that one Chirurgeon should love another, as Christ loueth vs al. And in thus dooing they shal increase both in vertue and cunning to the honour of God, and worldly fame, to whome he bring vs al. Amen.

THE SURGEONS' COMPANY.

The unnatural union of Barbers and Surgeons lasted for another 200 years, but it was never a success. The contracting parties were incompatible, and the incompatibility increased as surgery began to emancipate itself from the superstitions and traditions of the elders under the influence of advancing scientific thought and discovery. During these two centuries much had taken place on both sides of the Atlantic. Spanish, Portuguese, Germans, Dutch, French, and English had migrated in large numbers to North America; and the English colonies were exerting more and more pressure on their Spanish and French neighbours. In England the Stuarts and the Commonwealth had come and gone, and the House of Hanover was firmly established on the throne when in 1745, after 60 years of agitation, the Surgeons' Company was separated from the Barber-Surgeons by Act of Parliament.

In obtaining their release the Surgeons were only following the example of Paris, Edinburgh, and Glasgow; but the Barbers naturally resented this divorce from their more distinguished and more prosperous partners. So they drew up a reasoned protest in which they finally urge:—

> But if for other reasons (which the Surgeons say *may* be given) the Parliament shall be inclined to favour them in this part of their Report the Barbers, from the scrupulous Regard and Tenderness which that august assembly has always shown for *private Property*, cannot but hope that they shall be *continued* in the enjoyment of all their Possessions without any diversion whatsoever.

And so it was settled. The Barbers kept everything—hall, plate, and pictures, and the Surgeons had to make a fresh start on their own account. Cheselden, who, in his scarlet coat, watches over our Council meetings, was a prime mover in the change, and Mr. Ranby, sergeant surgeon to George II., was the first Master.

THE FUNCTIONS OF THE COMPANY OF BARBER-SURGEONS.

In order to grasp the evolution of our College we must glance at the functions—*quoad* surgery—of the Barber-Surgeons during this second period in our historical review. The orthodox training for a surgeon was by means of apprenticeship, and the Company supervised the quality and training of the apprentices and examined them before granting the licences, which then had to be approved by the Bishop of London or the Dean of St. Paul's. At times they had trouble with these worthies, who were apt to give licences on their own account without proper examination. The Company also gave licences, sometimes partial, sometimes temporary, to foreigners, and it is to be feared sometimes to the merest quacks. They also did not hesitate to take them away again if occasion arose.

The licensing of naval surgeons was also committed to them. One of their important functions was the public dissection and teaching of anatomy, the only form of anatomical study recognised by law. For this purpose the bodies of four executed criminals were allowed each year. Another was the appointment of public lecturers or readers on surgery. But this was apparently not a very successful venture. Besides this they exercised a censorship over the books of their members, and had the power of summary commital for minor offences.

But the fact of belonging to an important City Company hampered the surgeons greatly. They had to take part in City functions and public pageants, and were heavily assessed for public objects, such as the repair of St. Paul's Cathedral, or Irish necessities. Countless dinners exhausted their coffers, and it is not to be wondered at that their valuable plate was frequently at pawn, and that at one time the Company actually became bankrupt. One cause of their difficulties was the rise and increasing prosperity of the medical schools with their more attractive, shorter, and less expensive system of training or apprenticeship—less expensive because no part of the hospital fees was wasted in defraying the cost of civic extravagance.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

And now, since the separation of the Surgeons from the Barbers and the formation of the Surgeons' Company, another 200 years has almost passed away, and our College stands before the world *totus atque rotundus*, for criticism or praise. Let us shortly glance at the intervening period.

The new Company passed through many vicissitudes, monetary and domestic, both in their original quarters in the Old Bailey and also in our present house in Lincoln's Inn-fields. In 1800 they were established as the Royal College of Surgeons in London by a charter of George III., and in 1843 the name was changed, by a charter of Queen Victoria, to the Royal College of Surgeons of England. In the meantime the ancient titles of Master, Governors, and Court of Assistants had been replaced by those of President, Vice-Presidents, and Council.

I will not burden you with a detailed account of the gradual development of our constitution, nor of the steps by which the corporation was enlarged to its present size. But it will interest you to hear that under the 1843 Charter a new Class of Members, who were to be called Fellows, was formed, from and by whom the Council were to be elected, instead of, as was previously the case, by the Council themselves. The idea was to enlarge the franchise without making it unwieldy, and in practice I think it works well. But there are murmurs from a small but active section of the Members, whose shibboleth is the phrase, "the modern idea of representative government." Students who passed the necessary examinations obtained their *quid pro quo*—the diploma of Member—which carried the right to practise and certain privileges, exemptions, and immunities. They also became by law an actual part of the body corporate. If this had not been the case, and if they had been called Licentiates, as is the case at the College of Physicians or the Apothecaries' Hall, they would have had no suspicion of a claim to the franchise. And if our College were still struggling and impecunious it is possible that the high philosophical, democratic idea would not have suggested itself. Now the Members number over 17,000, most of them busy general practitioners; they are scattered over the three kingdoms and the colonies, and many are in the services. They would form an unpollable constituency, and it may reasonably be feared that if universal suffrage were adopted only the comparatively few advocates of the change would be represented, and that an attempt would be made to import an expensive socio-political element (now well looked after by other bodies) into what is undoubtedly the proper function of the College.

The Fellowship of the College.

The first Fellows, 300 in number, were chosen from the Members. They were elected by the Council, chiefly from the surgeons, assistant surgeons, and lecturers of the metropolitan hospitals. A second batch of 242, elected in 1844, included many representatives of the Naval, Military, and Indian Forces. Since then the ordinary portal to the Fellowship has been an examination, or rather two examinations, which together constitute a formidable and searching test of ability. Our critics say that the number of rejections at them is out of all reason, and I am not prepared to say that the criticism is unworthy of consideration. At the same time it must be remembered that the Fellowship is not a mere qualification to practise, but is intended to mark its holders as having undergone a thorough training and examination in anatomy, physiology, pathology, and surgery, and also that in spite of all its difficulties there is no lack of candidates for what is the most coveted British surgical distinction. The number of Fellows is now 1589.

An elected Fellowship is to form the first Corpus of your College, but you will be faced with the problem of its renewal and enlargement if it is to be an active, moving force. I will therefore briefly describe our method of attaining this result, because it appears preferable to that which is adopted by the Royal Society and the Royal College of Physicians of London—namely, to elect a certain number of Fellows every year. Ours, at all events, excites no jealousy and causes no heartburning. I know it has been suggested that the presentation of a thesis might replace or supplement an examination. But it must be remembered that many excellent practical surgeons might find this an arduous, if not an impossible, task; and also that the professional thesis writer is not unknown where this practice prevails.

The Examinations for the Fellowship.

For the First Professional Examination four examiners in anatomy and four in physiology are selected from the professors in these subjects at universities and medical schools. The papers of each candidate are read and marked by two examiners in anatomy and two in surgery. Each candidate is then subjected to a searching oral and practical examination by the other two examiners acting together. No candidate is examined by his own teacher, and successful candidates must obtain a high percentage of the total marks. For the Second Professional Examination the ten examiners are surgeons on the staffs of large hospitals connected with medical schools. It consists of a written paper, an elaborate clinical examination, both written and oral, operative surgery on the cadaver, surgical anatomy and surgical pathology. In each part the candidate is examined by two different examiners, one questioning and the other assessing. Thus, before the ordeal is complete, he has appeared before all ten examiners, and on their joint award he is either passed or rejected.

If you contemplate anything of the sort and desire that the diploma shall indicate, not only that a man can pass a severe examination, but that he has been thoroughly well trained, you will be well advised to lay down a special curriculum (I speak the word with dread) over and above that required in the ordinary university course, and to frame the examinations on a standard even higher than the highest degree examinations. It is, in my opinion, essential that the examination should be conducted independently of any medical school, and that the examiners should be chosen only from those who are actually engaged in teaching. It is also highly advisable that examiners should, whenever it is possible, be Fellows of your College and that no candidate should be examined by his own teacher.

Before leaving the subject of the Fellowship it is proper to state that our Council have the right to appoint *ad eundem* Fellows, but there is only one of these. They can also elect to the Fellowship annually two Members of 20 years' standing, but this privilege also is sparingly used. By a charter of 1908 (which was the centenary of the College) a new order of Honorary Fellows, limited to 50 in number, was instituted. This includes a few personages of distinction who do not belong to our profession, as well as representatives of the flower of surgery in all parts of the world, some of whom I am proud to think form part of my audience.

The College: Museum and Library.

I must now pass to the consideration of what we are and what we do to-day, though the thought obtrudes itself, What use can these musty old traditions and tedious evolutions be to you who are in the act of springing fully armed like Minerva from the head of Jove? It requires an effort to appreciate the youth of this enormous city. When Lister was planning his visit to the United States in 1884 he turned up his ordinary everyday atlas to study the route and looked first for Chicago, but lo, it was not to be found! Will you bear a little longer with the prattle of one who, compared with yourselves, is like a pliocene pithecanthropos?

We are now, as things go, in comfortable circumstances. Our affairs are well managed and we can put by against the day of adversity—a very necessary precaution in these times of political instability and social unrest. The College, a large and dignified building, standing on freehold property, contains amongst other things a theatre, laboratories, a library, and the museum.

The nucleus of the museum is the famous collection of that genius who may almost be called our patron saint, John Hunter. It was bought by the nation, and though it was handed over to our custody it is actually in the hands of trustees. It is thus a national institution, but the greater part of it is our own, for we have spent since 1800 no less than £500,000 upon it. It is now probably the best of its kind in the world, and is resorted to largely for study and research. The development and improvement of the museum is one of our primary duties.

The library contains 60,000 volumes and perhaps an equal number of pamphlets. This of course is small as compared with those of the Faculté de Médecine at Paris, or the Militär-Medizinische Akademie at St. Petersburg, or your own magnificent Surgeon-General's Library at Washington. It is, however, if not the best, one of the two best medical libraries in London, and is very largely used.

The Council: Disciplinary Functions.

The affairs of the College are managed by a Council of 24, who cannot sit for more than eight years without re-election and seldom serve for more than two terms. The Council meets once a month. Most of the work is done by committees; it is concerned with public as well as our own private affairs. The Council have also certain disciplinary functions and supervise the examinations for our own special diplomas (the Fellowship, the Diploma of Public Health, and the Dental Diploma), as well as those granted in common with the College of Physicians.

In speaking of the disciplinary functions it must be remembered that our General Medical Council has definite judicial powers over registered medical practitioners entrusted to it by Parliament. It can institute inquiries, take evidence, and deliver judgment. It can erase the names from the Register of those found "guilty of conduct infamous in a professional respect." Our College has only jurisdiction over its own Fellows or Members, and is not in the same sense a judicial body, but it often investigates complaints and, accepting the decisions of the courts of law or the General Council, deprives members of their diplomas, sometimes restores them, or issues reprimands for minor offences, and thus endeavours to maintain the respectability and dignity of the profession. It is a very delicate subject and one which I am sure will give you very serious matter for thought. You will be fortunate if you escape the criticisms sometimes made upon our actions; either that we have proceeded with too great temerity or with excess of caution.

Possibly it is the hope of some active promoters of this scheme that a system of ethics may be set up and enforced acceptable to the whole North American continent. It is a Herculean task, not unworthy of a modern Hercules.

In studying our own history one is struck by the fact that the crime of one age may be either unthinkable or altogether condoned in the next. In old days punishment was inflicted on an unlicensed person for hanging out a flag to indicate that he was a surgeon, or on a surgeon for wilfully exposing his dirty bleeding cups in the shop front, or—observe—for prescribing an internal remedy. Touting for patients is an old offence, but the Insurance Act with us appears to be forcing the censors to judge it less harshly. And not only Time, but Place, exerts its influence on the code of medical ethics. What may be considered merely bad taste, or hardly that, in one country is disgraceful in another. Even the method of issuing an advertisement makes all the difference in the eyes of the moralist. So that sometimes as the black ball is reluctantly dropped into the box I seem to hear the words of the parable, "Let him that is without sin amongst you cast the first stone." When I think of your vast continent, of its polished eastern civilisation, of its wild west and its even wilder south, I feel sure that in the matter of discipline you will have to tread with cautious steps lest you should defeat your object; bearing in mind the words of Thomas Vicary quoted above, "likewise that they despise no other Chirurgeon without great cause."

EXAMINATIONS.

The subject of examinations is a dry one, but it is worthy of your serious consideration; and I trust that by omitting any further reference to the Fellowship and the special diplomas it may be possible to hold your attention.

Many of the time-honoured institutions in England are the result of slow growth, of patching together and preserving what is good in the old and by degrees eliminating the bad. The result is often passable but not perfect, and our system of medical examinations in the three kingdoms shares the fate of many arrangements of the kind. *Video meliora proboque* (I recognise and approve of something better) should be our motto, and I gather that your position, at all events in the States, is not a much more happy one.

My own view is, but I commit no one else in expressing it, that the ideal plan would be that in every country the qualification to practise should be granted as the result of a uniform examination, controlled or authorised by the State, something much more practical and efficient than the German Staatsexamen. And by *State* I mean not one of your States, but *country*, for I do not think it possible that a single scheme should be adopted by a huge continent like this, with its Latin and Teutonic elements living side by side. Canada is showing the way, and I can imagine that the United States and Mexico—each surely large enough to form a unit (the United States is indeed probably far too large for the purpose)—might take a hint from the Dominion, where, as I understand, a General Medical Council has been formed which will in future control the examinations which alone will confer the right to practise. There are other ways in which the result might be obtained; but even if this were a suitable occasion I am not sufficiently acquainted with your special difficulties to pursue the matter further.

In any country where such a test is enforced the examinations for the Fellowship of Colleges and the degrees of Universities need no longer traverse the whole of the medical curriculum, as they would no longer carry the qualification. They need only include whatever special polish the particular body thought it advisable to apply to the individual who had already obtained the seal of his country upon his general fitness to practise his profession.

With us more or less uniformity of standard has been obtained by means of the powers entrusted by the Privy Council (from whom the right to hold qualifying examinations originates) to the General Medical Council, of inspecting and reporting upon the examinations of the far too numerous qualifying bodies. But it is impossible to overlook the dangers of underbidding and underselling, and the unnecessary and unprofitable toil imposed upon the student who may desire to possess, say, both a University degree and our Conjoint diploma.

The serious and prolonged attention that the American Medical Association have devoted to this subject, and the very fact that we are assembled here on an occasion that may almost be called a solemn one, for the inauguration of your College makes it certain that some changes will before long take place. It is my earnest hope that they may be wisely made. Of one thing I am profoundly impressed, that a uniform standard is essential for the best interests of the public and the profession, and that no such uniform standard is likely to be obtained unless the profession is unhampered in its endeavours by political or parochial interference.

Until about 25 years ago the examinations for the Membership of our College of Surgeons included rather trivial examinations in medicine and midwifery, and, like those for the Licence of the College of Physicians, carried a qualification to practise. But in 1884 a Conjoint Examining Board of the two Colleges was formed, on which each is represented and each discharges its own proper function. Successful candidates become Licentiates of the Royal College of Physicians and Members of the Royal College of Surgeons, and there is no other way of obtaining these diplomas. It is not too much to say that these examinations are recognised as being models of fairness and thoroughness and are specially distinguished by their practical character. There are those who hope that, if a State test is ever instituted in the old country, they will at least be taken as its pattern.

THE RELATIONS OF PHYSICIANS AND SURGEONS.

This *rapprochement* between the two Colleges is one of the most satisfactory developments of modern times, and is one to which I desire particularly to direct your attention. I am in complete agreement with a recent statement by one of your most thoughtful surgeons, that as surgery becomes more and more scientific and involves the treatment of all the internal organs it is natural that surgeons should be more than mere superficial physiologists and pathologists, that they should become, in fact, physicians as well as surgeons. My own practice has largely been upon the border-land, and I have all my life pointed out that, whereas the pure physician *need* not be conversant with the details of surgery, the more he knows about them the better; but that it is essential for the well-equipped surgeon to make himself acquainted with much of what is considered to be the special domain of the physician. Surgeons who specialise often become adepts in the medical aspects of their own specialities; and it may well happen (if they do not excite jealousy by *practising* as physicians) that their opinions will be sought by their medical colleagues, not only in respect of treatment, but also to assist in diagnosis.

The tendency, therefore, ought to be for the two branches of the profession to be drawn more and more closely together, and it may confidently be anticipated that in forming an American College of Surgeons nothing will be done to widen the interval or accentuate the divergence between them.

In London the two Colleges are now on the most friendly terms, and in many matters act in common for the good of the profession and the community. But there is no chance that we shall ever amalgamate. Our traditions are so different; there is but little similarity in our constitutions and our methods of doing business. And seeing that what has been said about single as opposed to married life—"he travels the fastest who travels alone"—is true also of corporations, we shall no doubt each for the most part pursue our own course, completely emancipated, however, from the petty rivalry and discord of former days.

It is strange to think that about 1420 a *College of Medicine and Surgery* was actually established within the liberties of the City of London—that is, you will observe, nearly a century before the foundation of the Royal College of Physicians. It is also a sad reflection that, powerful as it was and promising as its prospects appeared to be, the two parties in it could not succeed in working harmoniously. Later on the two Colleges were often at deadly feud, the principal complaint of the physicians being that the surgeons persisted in administering internal remedies. At one time they positively refused to meet one another in consultation. It is much to be deplored that the original scheme failed. It came too early in the world's history. But in this age of reason, if I were framing the constitution of a modern Utopia, I would found such an associated college, which, of course, would be an unqualified success, for even the schemes of the ancient Utopia, we know, were always not only theoretically unimpeachable, but practically perfect.

CONCLUDING REMARKS.

Utopia! The word reminds me that on receiving your invitation I thought it might be necessary to adumbrate the *perfect college* which yours I trust will be. But I will not attempt to do so. Your College, by the very nature of things, must be, both in structure and function, totally different from ours, and ignorance of the local conditions would lead me into hopeless difficulties. For example, you may intend it to be, like the Church Universal, an impalpable something enshrined in your minds and consciences, but I can hardly conceive of it without a stately habitation, over the door of which is the inscription, "*Aedes Collegii Chirurgicorum Americanorum.*" Only where? Naturally the first thought that occurs to an Englishman is Washington, but the vast extent of your continent at once suggests objections which might be raised. Again, my idea of a college includes a magnificent and expanding library, but it would be a waste of effort to duplicate your own national Surgeon-General's Library. If your temple ever rears its head, at least I hope that you will have a museum modelled upon, and perhaps some day surpassing, the Hunterian Museum in Lincoln's Inn.

These things are, however, merely the outward coverings and the skeleton of the college. You are the flesh and blood, the circulation, the primæ viæ, the nerves and the brains, and it is for you, and you alone, to work out your own salvation. No advice of mine beyond the hints scattered here and there very tentatively through this address can, I fear, be of any service to you; it is my fervent hope that what I *have* said may at least not appear injudicious or impertinent.

Let me therefore in conclusion return to the thought with which I began—namely, the happy inspiration that suggested to you to invite the College of Surgeons of England to send their President to mix the caudle cup for your christening. It was, I assure you, most willingly and heartily accepted by them. The brotherhood of science is an intimate relationship, but we are so widely scattered over the face of the globe that it is apt to be overlooked. Anything, therefore, is to be welcomed which helps to remind us that we are all brothers, in spite of diversity of tongues and dividing seas. But in the case of America and England such interchange of thought, such interchange of courtesy and hospitality, have a still deeper and a more important bearing. It is not simply because we are fellow labourers in the same *scientific* fields that we thus meet together—now on this side of the Atlantic, but soon, I hope, on the other—but because as *nations* we have long since beaten our swords into ploughshares, and are intent upon cultivating those fruitful acres of mutual forbearance and respect.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—The annual dinner of this charity will be held on Dec. 3rd at the Trocadéro Restaurant, London, when Sir Philip Sassoon, Bart., M.P., will take the chair. The hospital, which has 175 beds and over 10,000 out-patients annually, is the second largest hospital in London for consumption. It is situated in a healthy position but remote from wealthy residential parts, and but for substantial recognition by King Edward's Hospital Fund would have suffered severely from pecuniary pressure. The purpose for which the committee of the hospital are at the present moment seeking special assistance from the public is the improvement of the sanitary arrangements in the older portion of the hospital and the modernising of the heating system.

An Address
ON
SOME REQUIREMENTS FOR MODERN CLINICAL TEACHING.

Delivered before the Medical Institution of Liverpool on Nov. 6th, 1913.

BY SIR DYCE DUCKWORTH, BART., M.D., LL.D., F.R.C.P.,

HONORARY MEMBER OF THE INSTITUTION; CONSULTING PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL AND THE ITALIAN HOSPITAL; SENIOR PHYSICIAN TO THE SEAMEN'S HOSPITAL, GREENWICH.

GENTLEMEN,—My first duty is to thank the officers of this institution for this opportunity of addressing my professional brethren in this my native city, a place endeared to me by long and touching memories, not a few of which, indeed, relate to old members of this society, now passed away to their rest.

MEDICINE AND SCIENCE.

I have selected the subject of clinical teaching because it has become one of supreme interest and importance, and concerns the highest welfare of all our British Schools of Medicine. It is certain that profound changes have occurred within recent years in our clinical methods which were not conceived as possible when many of us were students.

Let me make my standpoint in this matter clear from the outset. It is sometimes asserted that physicians of my standing are now little better than pre-scientific fossils, unfitted to realise or avail themselves of modern methods and research, for which they were never trained, and who therefore venture to believe that they may safely discard them. Thirty-eight years ago Burdon Sanderson expressed his profound conviction "that a future will come, it may be a somewhat distant future, in which the *treatment* of disease will be really guided by science." Two years later Claude Bernard remarked that "the old traditions are losing ground, and scientific medicine (*la science expérimentale*) has got hold of all our younger men." These were indeed prophetic statements from two great physiologists, and we shall do well to note what has happened in the interval, and ascertain if the practice of medicine has yet reached the high scientific position anticipated for it. We may roughly sum up the advances which have materially altered our methods as results of studies in bacteriology and biochemistry. Many of these have proved fruitful for the benefit of humanity, and we are justified in expecting fresh disclosures in the days to come. They are indeed so remarkable that no intelligent member of our profession can afford to be ignorant of many of these achievements wrested from nature. The laboratory has therefore become an important and essential adjunct to the clinical ward.

Being still engaged in clinical teaching, I venture to assert that while my position and training exclude me from taking any part in laboratory methods and research, I am yet enabled to summon from this source the best expert revelations for the benefit of my patients and my pupils, and I am constantly doing so. I recognise to the full the value and essential importance of all these modern methods, and gladly urge the experts to further *advances*. We surely know that legitimate medicine can never stand still and live on even the best of its past, The task before us to-day is complex and indeed difficult for any clinical teacher. He dare not shut his eyes to the achievements of his great predecessors, and yet he must be ready to take advantage of the best modern assured facts and methods of inquiry.

Let it be noted that his great centre in this matter is the true welfare of his patient, for the physician is a healer by profession; and he must *secure from all sources the best possible knowledge* to enable him to make an exact diagnosis, to treat his patient, and to frame a sound prognosis as to the outcome of any ailment affecting him.

Medicine as an Art, guided by Scientific Research.

Modern medicine is now declared to be gradually becoming a branch of experimental science. I do not accept this pronouncement. I prefer to affirm that medicine is an art, guided increasingly by the disclosures of scientific researches, and I venture to declare that if clinical work was conducted at the present time solely from a scientific standpoint, without any reference to the personal factors of our patients, it would often fare badly for them.

The physiologist's standpoint is not that of the physician. The former is not a bedside artist, and has little knowledge of the inward human elements in the ailing human individual. He is often devoid of clinical instincts. His work is impersonal and confined to soulless materials. The physician ministers to mind and soul as well as to tissues and secretions, and he has to discern the subtle *difference in the living, though sickly, organisms* with which he has to deal. This faculty for observation of the personal factor in each case varies, of course, in different individuals. In some it almost *amounts to an instinct*, and in *any instance can* only be acquired by study at the bedside. The physician needs all the best knowledge that the physiologist and biochemical professor can give him, but he has to apply it with prudence in his own way as directed by experience. That is not science properly so-called, but it is a great and imperative requirement for success in practice. Doubtless many bedside problems are best resolved in a clinical laboratory closely adjacent to the patient, and we are now establishing those aids to diagnosis in all our best schools. We may note, however, that if such researches are not conducted by experts they may lead to wrong interpretation, and be unavailing or even harmful.

There are some amongst us who do not hesitate to regard a good deal of the clinical art of to-day as little better than an old-fashioned empiricism, and the modern scientific physician appears to have set himself to dispense with all matters which smack of it. It is supposed to be unnecessary and fruitful of errors. The modern surgeon, it is true, may generally find small place for anything empirical, for he has had little need for such practice, and his work is not seldom plainly set before him. Much more plainly, indeed, to-day owing to the admirable work which surgeons have done of late years in interpreting what Sir Berkeley Moynihan aptly terms "living pathology," especially in respect of the abdominal cavity. The physician readily appreciates most of the fruits of modern surgery, and is gravely in fault if he hesitates to secure promptly such aid as can be secured from the surgeon for his patients. It has to be conceded that surgery has now taken over into its department several chapters in medicine, and our surgical colleagues are ready to deal with every cavity in the body in which operative measures are possible or desirable.

I trust that, thus far, my hearers may give me credit for an open mind in regard to modern methods, and gather that I am unprejudiced and in no degree jealous, but truly very proud, of the splendid achievements of modern surgery.

WHAT EMPIRICISM REPRESENTS.

I have a good deal more, however, to say about the physician and his work, and I would ask you first to consider what empiricism in medicine represents to-day. Sir William Hamilton's *definition* of the term was: "Experiment or experience without science." I venture to think that such terms can hardly apply to much of the empiricism *of this century, for it is certain that the phenomena* of disease are now carefully studied by physicians already trained in scientific methods. The results of treatment are no less rigidly noted by them as *a scientist* would note them. A *preferable*, but still incomplete, definition of empiricism is: "The product of experience, founded on observation alone." In this case it cannot be an asset in the equipment of any young practitioner. Observation is the keynote of the physician's life work. He should start in practice as a well-trained observer. (I note a special defect in modern preliminary training owing to an inadequate teaching of the subjects of botany and materia medica, which are of much value in promoting observation of details.) Precision and accuracy in seeing and recording are of high value as acquirements. The imperfectly trained observer is often blind to matters that become almost instinctively borne in upon the well-trained one, and as Browning wrote: "Men won't notice; when they do they'll understand."

The Training of the Student.

The reformers of our medical curriculum contend that unless a student is scientifically *trained to* research and to watch for new results his education is defective. I believe that such training is now adequately secured for the average student in his present compulsory studies in the physiological and bacteriological laboratories of our best schools. Original research is hardly possible for him *in statu pupillari*, yet such work has always been carried on by aspiring students who, with exceptional industry and ambition, find time to do it. Modern teaching in all departments is now conducted by scientifically trained observers, and they surely impart the methods and fruits of such training in their daily duties.

I am inclined to believe that the scientists are now unduly pushing their subjects into the curriculum of our students, and thus withdrawing them from an adequate pursuit of their clinical duties. The modern curriculum is indeed heavily loaded already. The exceptional student must be blessed with more time and money than falls to the lot of the ordinary one, and let us remember that the instinct and taste for original work are not universally implanted in the minds of our pupils, who for the most part have to be prepared for the particular practical duties that await them.

We must face the facts with which we have to deal. We do not find the same types of mind in this country which we meet with in foreign countries. Our methods are, and always will be, different. We have to take the best we can secure from all sources, but we shall employ them in our own way as seems most profitable for the end in view. I believe that we are now doing this in all our best schools, while we pursue methods of our own which it would be well for many foreign schools to adopt. We can at least illustrate for them the art of nursing the sick, surely a clinical matter, and display in our hospital service a ministry of humanity not too readily met with in foreign cities.

Rational Empiricism.

I therefore regard the term empirical, in its ordinary sense, as an improper one to apply to a skilled modern medical observer; and I prefer to regard a rational empiricism as a fine part of the *ars medendi*. I have a strong opinion that the best practice of medicine will never be completely covered by what we recognise as science, properly so called. Have we not discovered for ourselves that highly scientific practitioners are not always the best clinicians, nor are they the men to whom we should prefer to trust our lives, or those dear to us, in grave diseases? Such opinions cast no measure of indifference on scientific methods and attainments which must always be appreciated and encouraged.

Sir Oliver Lodge has lately reminded us that "the methods of science are not the only way of arriving at truth," as is now too commonly believed. The two methods, rational-empirical and scientific, are distinct, and equally imperative, and they must be blended as required in our practice. It cannot be denied that a large part of successful medical practice is rationally empirical, and cannot be explained in the terms of an exact science. We can neither afford to wait, nor our patients to suffer, until scientific principles govern all our therapeutic efforts, and we are prepared with exact explanations of their efficacy.

I suppose that the work done by such clinical masters as Bright, Trousseau, Graves, Addison, Jenner, and Murchison, not to mention many others, is now regarded by some of us as of secondary importance and little adapted for modern teaching. Apart from their enduring contributions to pathology and treatment, we must recognise that much of their practice was guided by a rational empiricism which they exerted with skill and trained experience. I maintain that we must still work on similar lines to-day, better equipped indeed than these men were, and seeking our knowledge largely from close and accurate bedside observation. We may remember that these men thought and worked in days of less pressure and strife than those we are living in. There was then more time for meditation and fruitful thinking, less eagerness to produce mere results, and more patient waiting on nature. There were fewer hurried publications of distracting and ephemeral novelties than assail us to-day.

Let it be noted that empiricism has often anticipated science in medicine, and by affording suggestions for profitable research played an honourable part, which it is certain to continue to do in the future.

THE DOCTRINE OF THE DIATHESES.

I pass on next to consider the true relations of experimental research to modern medicine. As I have already stated, I regard the clinical laboratory as one of the best and safest equipments in our new schools, especially because it is in touch with the living patient. It is as human as it can be. (Do not imagine that I am an antivivisectionist.)

The tendency of laboratory training is to lead to the belief that there is a constancy in each unit of humanity, presenting similar proclivities, immunities, and characters in respect of the tissues, metabolisms, and secretions of the body. Yet it does not demand much reflection to indicate that this is not the case. We are not so many ninepins turned off from a lathe out of a block of wood. There are, indeed, infinite differences in human units, and the physician must take due note of them as far as he can. This is entirely a matter of observation relating to varying types of constitution or habits of body, and a recognition of the signs of progressive maladies as expressed in the face and the body generally. A trained student of these varied indications may thus acquire a remarkable insight into the ailments and tendencies of a patient without asking a single question, and so is often rapidly put on the track of the conditions he is likely to meet with.

The teaching of the doctrine of the diatheses, or inherent qualities of bodily texture, is not only now set aside but regarded as effete and useless, and thus a whole chapter of our art is closed to modern students. Half an hour spent once a week with a skilled teacher in physiognomical diagnosis, with proof, or disproof, of the opinions thus formed, corrected by inquiry and physical diagnosis, would prove of great service to senior students, and equip them for [illegible]. The eminent French physiolog[illegible]. has recently called attention to what he terms "a humoral personality which renders each different from other individuals." Remarking on this, Professor Chauffard, in his remarkable address to the International Congress of Medicine last August, declared that "the findings of modern clinical medicine approximate to and complete the teachings of tradition, and suggest the close connexion of these 'humoral personalities' with the old doctrine of the diatheses."[1]

The Arthritic and Scrofulous Habits.

These inquiries are often fruitful. I can give no more pregnant examples of this study than are afforded by the basic arthritic habit of body, and the strumous or scrofulous habit. In the arthritic habit, or diathesis, we find a specific readiness for infection by the peccant [illegible]nts which induce rheumatic fe[illegible] des of life. Later on we find in this class a marked tendency to the perverse metabolisms which engender gout and the protean phases of that specific malady. The strumous habit of body, with its two varieties of refined and coarse physiognomies, presents us with a soil which is the most favourable of all for the cultivation of the bacilli of tubercle, and for most of the vicious microbes we have knowledge of. A close study of these two distinct habits of body indicates that there is a remarkable antagonism between them. The arthritic diathesis provides the worst possible soil for the tubercle bacillus, which can hardly lodge or develop in it. The scrofulous soil is little friendly to rheumatic infection, and rarely disposed to the morbid metabolisms issuing in gout.

When these two habits of body blend, as often happens, by heredity, we note that the arthritic element in the individual has a marked and valuable influence in restraining the onset of tuberculosis and of inhibiting its progress if it alights on the body. I must add here a note to the effect that I utterly deny the teaching of those who maintain that scrofula is a manifestation of tuberculosis, or, as is sometimes declared, on the authority of Koch, an attenuated tuberculosis. It is possible to be scrofulous throughout a long life without manifesting overt or serious tuberculous disease.

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[1] THE LANCET, August 9th, 1913.

Heredity.

Closely allied to this line of thought and experience is the study of the doctrine of heredity, a matter always demanding inquiry, aiding much both in diagnosis and prognosis in every patient. Diathetic proclivities may thus be traced in families, the accentuation of some or the outcome of blended habits being noted in various descendants. We thus gain knowledge which is little likely to issue from scientific or experimental work in the laboratory at the present time. I can conceive a time, however, when the specific qualities of tissue and metabolism pertaining to the subjects of different habits of body may be disclosed to us by biochemical and other researches.

I may mention here that Dr. Nathan Raw, of this city, has lately brought forward important facts which give support to some of these contentions.

THE VALUE OF CLINICAL ACUMEN AND OBSERVATION.

I would illustrate the superiority of clinical acumen to laboratory research by a reference to the teaching of the physiologist in respect of the effects of alcohol as he observes them after proceeding to poison certain small animals with this agent. He declares it to be toxic in any degree for all the tissues of the body. As clinicians we have learned to value it both as a food and a valuable therapeutic aid for certain conditions of disease. We claim no scientific authority for its use, but are convinced of the benefits derived from it when appropriately employed. I suppose that no one is better informed than the physicians as to the effects of misuse of alcohol on the body, and such knowledge makes all prudent practitioners duly careful in prescribing it. I have lived long enough to have witnessed great changes of opinion in this matter from the time when alcohol was largely used, to the present day when its total withdrawal as a remedy is urged upon us. I regard both of these methods as erroneous, and illustrating improper practice. The true physician never sails on any prevalent wave of fashion in therapeutics, but endeavours to see all matters in due proportion, with a level head and vigorous common sense; and when common sense is not combined with clinical practice I am sorry for the patient. I may add on this point that I have yet to learn that any lesions specifically attributable to the use of alcoholic liquors have ever been noted in the necropsies of persons who have led temperate lives, and employed such articles in strict moderation.

While we welcome new methods and post-graduate teaching of them as essential to the progress of medicine and the better equipment of the practitioner, we must acknowledge that in many fields of practice there must be few opportunities of employing them. Hence the value of well-trained observation and clinical acumen which must remain, not seldom, all that can be drawn upon in such circumstances. It is, however, desirable that fresh knowledge should be acquired even by those who are unable to employ it, so that they may urge its benefits on such patients as may be able to secure them elsewhere.

Even in the most favourable environments we do wisely to hold by our clinical skill amidst the temptations of these days to make short cuts in diagnosis, when, without due meditation and patient examinations, we may even defer to make one at all, and proceed at once to arrive at it by securing a direct view of the "living pathology" of our patient somewhere within the recesses of the body. Such a practice is now possible, but it leads to a decay in our clinical art, and it is surely undesirable [illegible] ry that has been done [illegible] skill by the National Insurance Act. I would ask, Of what avail is it to provide the best teaching for many of our pupils who cannot by any possibility make proper use of it in the toils of panel practice? The public has little knowledge of the serious blight that has thus fallen upon our profession by this ill-conceived scheme, one that could not have been thrust upon it if it had stood shoulder to shoulder in resisting it, both in the interests of the public and of the honour of the profession.

I need not allude to the value of well-prepared formal clinical lectures, illustrated, when possible, by exemplary cases, but I would urge the importance of holding weekly consultations with the whole staff of physicians on certain patients presenting difficulties in diagnosis. These should be held in a theatre, and the patients examined in the presence of the pupils. The several opinions formed should be declared after the removal of each patient. One of the great advantages of our British clinical teaching is that it brings every student in contact with the patient, and leads him to investigate for himself and take his own notes. Continental teaching does not secure this.

Evaluation of Therapeutic Methods.

The new methods of vaccine and serum therapy, and the employment of salvarsan and other powerful agents demand watchful study and large experience of them before we determine their precise and appropriate employment. We have to reckon with impatience on the part of the public which takes note of startling new remedies, and expects an immediate and accurate use of them at our hands.

It is sometimes forgotten that in the matter of treatment clinical observation must always be the final appeal. As *declared* lately by Professor Chauffard, "it is the physician at the bedside who has the last word to say, and he controls all therapeutical methods, whether old or new. It is by clinical observation alone that the newest acquisitions are to be judged as fruitful or consigned to oblivion."

The Inherent Vitality of Patients.

Once more, what an interesting study awaits us in the endeavour to ascertain the degree of inherent vitality in our patients. The varying tissue-resistance of the body is truly remarkable, a personal element in each case. We seek to explain the contrast in the gradual wear and tear of the textures observable in the still-active nonagenarian with that of the obvious senility of some who have not reached far beyond middle life, and who have yet lived prudently. This inherent vitality is a great element to be reckoned with. It is sometimes familial and racial, and is an appanage of the Hebrew race. It materially affects our prognosis in cases of acute and chronic disease. Disregard of this factor probably accounts for more gloomy prognoses than are justifiable, the vital resistance of the individual not having been appreciated. Such condemned patients are occasionally found to provide material for "faith" and "spiritual" healers to exult over and publish to our discredit.

We have lately been reminded by a great clinical authority that "book prognosis" is far removed from the living and actual prognosis applied not to the disease but to the patient.

The Mental State of the People.

The modern clinical teacher should take note of the changes which occur in the mental disposition and conduct of his patients as time passes on. We are led to inquire in this connexion if, with what we are pleased to call progressive civilisation, our people are really more brave and patient than were our ancestors of a century ago. I incline to the opinion that the introduction of anæsthetics and numerous anodynes, the pressure, strain, and motorial life of our population may, in varying degree, account for the present phase of tenderness, introspection, impatience, and mawkish sentimentality which is now so prevalent. These conditions certainly modify the symptoms and tend to disturb the treatment of our patients. The clinical laboratory will not help us in dealing with such matters. Our public school doctors now tell us of the "nerviness" of many schoolboys who fail to display the pluck and hardness of their predecessors.

If we take note of these matters it is a duty for us to declare them. They are very manifest, we are told, in the United States of America, and are attributed to similar causes prevailing in large centres. Higher education has not only not averted the onset of these phases, but has probably rather encouraged them. The introduction into our daily press of medical matters with detailed descriptions of diseases, together with vulgar pictures of scenes which it were better not to depict, is having, as I believe, unwholesome effects upon the public, rendering people less courageous and amenable, and vastly more apprehensive when they become patients.

I think we owe a duty to the public in referring to these sources of mischief, and we, happily, can do so apart from all debasing political considerations. You may think that I have wandered from my text in alluding to these conditions now encountered in our patients. On the contrary, they are serious clinical matters, as many of us know well.

THE MODERN TEACHING OF CLINICAL MEDICINE.

To sum up, I will now endeavour to point out what manner of man a modern teacher of clinical medicine should be. We find some new suggestions on this subject in the recent report of the Royal Commissioners on the University of London. These recommend the adoption of the system followed in the great schools of Germany. This, put briefly, presupposes a fully trained physician who should devote his life mainly to teaching, dealing with a sufficiency of hospital in-patients, together with a staff of expert assistants working in a laboratory attached to the wards. The professor is to be debarred to a large extent from entering into any private practice or consulting work.

Such a system would completely overturn our present methods, and several objections to it promptly occur to us. One of these, and an important one, is the limitation of duty mainly to hospital in-patients whose ailments are always the most serious. One of the greatest advantages of our British system is the wider experience to be gained from private practice which is wisely permitted, one which admits of knowledge gained from the study of many morbid conditions which are seldom seen in hospital in-patients. Our well-conducted out-patient departments, of moderate size, with skilled teachers, constitute one of the best sources of experience for all students of medicine. Another objection is the difficulty of finding such men in this country who will be able and ready to forego the emoluments derived from private consultations. In default of this, it would be necessary to have such appointments liberally endowed, and with pensions on retirement, from some source other than the medical school, which has no funds to employ for the purpose. Again, the expert staff of senior men attached to such a professor must also be liberally paid for their services, which should be carried on for some years, as they are in foreign schools, by the same men.

I am prepared to deny the special advantages which are claimed for this system. According to my ideas, it is not clinical teaching in its best sense. It appears to be propounded with the idea *that medicine is, or ought to be, an exact science*, and hospital patients little else than materials for the laboratory. That is not my outlook in this matter. I maintain that such professors would not be the best instructors for the average student —that is, for the majority of medical pupils; and I go further, and declare that the system now followed in our best British schools produces superior and more useful clinical practitioners than can be found as the products of many of the continental schools. Our teachers have the widest scope for their experience. Their duties demand and receive much time, and in all good schools, regulated by discipline, the best teachers expend much time in their wards. We are told, however, that "the chief object in London medical education is the passing of students through the various examinations." I must beg leave to deny this assertion in respect of the hospital physicians of the London, provincial, and the Scottish schools. I have taught pupils for more than 30 years at the bedside and lectured in a large school of medicine, and I can affirm that the idea of preparing them to pass examinations has never once entered my head; my duty has always been to teach them how to practise their profession with insight and skill and to promote accurate observation of the details, as well as of the greater facts, in evidence, away from all book studies. I must leave the surgeons to speak for themselves in this matter.

Post-graduate Training.—Chiefs of Clinics.

So far I have been considering the opportunities available in this country for educating the average practitioner. It has lately been declared in the public press that there are no provisions for aspiring students and for those who have the ambition to fit themselves for the higher position of teachers. Such advantages are certainly not far to seek in our largest schools, and the men we are thinking of may safely be left to avail themselves of them. There are now excellent post-graduate schools and laboratories for research in all our great cities, and colonial and foreign students are making use of them. It is natural and desirable that pioneers such as these should seek inspiration and fresh fields of work in the great continental schools, and learn other methods from their eminent teachers. It must be added that those who conduct such teaching in this country are, as a rule, very inadequately remunerated for their laborious duties. In the continental schools there is provision made for them by Government grants

The public little realise that some of our best hospital teachers are actually contributing out of their earnings towards the compulsory education of students. We do not hear of similar benefits being bestowed in other professions.

I think that it would be an advantage to our system of hospital training if we introduced the foreign one of securing a chief of the clinic to act under each clinical teacher, who should undertake and supervise the research work of the clinical laboratory. These appointments should be made for a term of three years at least, and an adequate stipend should be paid to the occupant. The experts *in the laboratory should always endeavour to be in* touch with the patients who become subjects for research. Beyond this, I hope that our British schools will not follow further on foreign lines in the endeavour to improve our teaching.

CONCLUDING REMARKS.

I confess to the highest admiration of many of the methods pursued in the Parisian school, for there we find the art of medicine bound up with the best scientific side of it. The great clinicians there have the benefit of the fuller experience of private practice and consulting work, and they certainly devote themselves assiduously to their duties in the wards.

A clinical teacher has great responsibilities. Before all things he must be human and sympathetic, never forgetting that he is dealing with patients who have souls as well as bodies, and not with mere "cases." He has to illustrate and teach good manners as well as medicine. He must believe in his art, for a sceptic in therapeutics can teach nothing. He should not pursue many novelties, for in my experience novelty-hunters have not been well instructed in the principles of medicine in their early career. To these requirements I would add, lastly, a large measure of tact and common sense, no small amount of geniality and humility, and a due degree of such dignity as rightly belongs to men charged with serious duties to their country and their fellow creatures.

THE TREATMENT OF NEURASTHENIA.[1]

By *J. S. RISIEN RUSSELL, M.D. Edin.*,
F.R.C.P. LOND.,
PROFESSOR OF CLINICAL MEDICINE AND PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL; PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN SQUARE.

Diagnosis.

"Neurasthenia" has become as much the refuge of the destitute, when a diagnosis is called for to account for nervous manifestations, as has long been the case with "influenza" when febrile symptoms are under consideration.

There can be no doubt that in many instances the diagnosis is made owing to the kindness of heart of the medical man responsible for it, as, although fully alive to the fact that he is dealing with a case of insanity, in which melancholia, delusional insanity, or some other mental affection is really responsible for the patient's symptoms, he allows himself the licence of labelling the affection "neurasthenia" for the comfort of the relatives and possibly for the peace of mind of the patient after he or she has been restored to health.

An individual who is really suffering from hysteria is similarly commonly said to be affected by "neurasthenia," as hysteria is an ugly word and one that is not usually palatable. Then, again, I need hardly remind you how often some grave organic affection is in the background, underlying the manifestations ascribed to neurasthenia, and how in some instances it is only at the necropsy that the real nature of the affection is ascertained.

Even after we have eliminated all such cases that have no legitimate claim to the diagnosis of neurasthenia we are left with a very large collection of patients whose symptoms are very similar, but with regard to whom it is justifiable to *speculate that probably many very different* maladies are confused in the present state of our knowledge. We hear so much of colitis, intestinal stasis, and other conditions as giving rise to a group of symptoms that some of us ascribe to neurasthenia that it becomes all-important that we should attempt to determine whether these conditions are the outcome of neurasthenia or whether they are responsible for the symptoms ascribed to neurasthenia. Are we to rely in treatment on measures calculated to raise the tone of the nervous system to effect a cure, or is the remedy to be found in Plombières douches, liquid paraffin, abdominal supports, or possibly evisceration?

Types of the disease.—After eliminating all other possibilities and justifying to our satisfaction the diagnosis of neurasthenia, we are next face to face with the fact that there are many different types of this affection, and that it is very necessary to recognise this if treatment is to have any chance of success in a given case. Without multiplying types unnecessarily it will probably be admitted by most of us that the cases fall conveniently into *one of three main groups—a cerebral, spinal, and* cerebro-spinal—and that the first group may be further conveniently subdivided in view of the fact that in some of the patients the symptoms are physical, whereas in others they are purely psychical, although in many both physical and psychical symptoms obtain.

To justify these contentions I need only briefly remind you of the headache, vertigo, and other purely physical symptoms that belong to one variety of the cerebral type, and of the phobias, obsessions, and other mental symptoms that belong to the other; of the feelings of physical exhaustion, pains in the back, weakness of the legs, and other similar symptoms that belong to the spinal type; and to the cases that constitute the cerebro-spinal type in which cerebral and spinal symptoms obtain in the same individual. Certain it is that these different types must be recognised if neurasthenia is to be treated with any hope of success, and that what may reasonably be relied on to succeed in one type of case cannot possibly be expected to effect good in another.

In addition to all this the nationality and temperament of the individual must be given due weight in our deliberations before we recommend treatment, considerations that are little, if at all, less important than the question as to whether the symptoms indicate a degree of exhaustion of the nervous system in which the tone is very low and in which the senses are blunted, or one in which the nervous system is in a state of undue tension with irritability and hyperacuity of the various senses. To attempt to treat people of all nationalities and temperaments on the same lines is to court failure, and it is equally certain that much in treatment that may benefit the individual with marked loss of tone of the nervous system is not only calculated to do no good in the patient whose nervous system is in a state of over-tension, but that such treatment usually does much harm.

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[1] Being a paper read at the Medical Society of London on Nov. 10th, 1913.

Causes.

In neurasthenia, as in other maladies, it is, of course, important to search for the cause, and when this is possible to remove it. It is, however, a mistake to suppose that removal of the cause, when this can be effected, will suffice to bring about a cure, for this is far from the truth. Nevertheless, careful search must be made for any possible cause such as some remote source of septic absorption from the pelvic organs of the female, a chronic appendicitis, pyorrhœa of the gums, &c.; chronic constipation, colitis, and dyspepsia must be corrected, as must all such prejudicial influences as eye-strain and the like. People suffering from this malady usually require active treatment directed towards resting and toning up the nervous system, in addition to the removal of the cause that has been responsible for the condition. I say active treatment for the reason that I am fully satisfied that in the large majority of cases rest and change without active treatment merely result in temporary amelioration of the symptoms, and that without active treatment the majority of patients relapse soon after they return to their normal conditions of life. True as all this is, it is equally certain that the degree of success to be expected from treatment in neurasthenia is largely influenced by the cause that is to be blamed for inducing the condition.

Prognosis.

The subjects of neurasthenia commonly regard themselves as suffering from some peculiar malady distinct from anything that has ever affected anyone else, and they are usually most hopeless in regard to the outlook, and so most sceptical as to the chances of a cure. This is, of course, not justified in a large proportion of cases, but in others we know only too well that, although the patient is wrong in supposing that he or she is suffering from any peculiar affection, nevertheless there is unfortunately good ground for the belief that the outlook is hopeless and that no treatment is to be expected to effect a cure.

Of no other class of case of neurasthenia is this more true than of the variety in which an individual is born with the tendency to the affection, and in whom sooner or later the symptoms will appear without any adequate cause that can be assigned, such as undue strain, shock, or any of the ordinarily recognised causes that are known to induce the condition. In this class of case the history is often very similar to that with which we are familiar in "folie circulaire," for periods of exhaustion with depression alternate with periods of feelings of exhilaration and wellbeing, in which there is an exuberance of spirits. Another class of case in which the outlook is far from promising is that in which, either with or without an adequate exciting cause, there is in the background a hereditary neuropathic taint which exercises a profound influence on the patient's illness, and which militates very seriously against the chances of success from treatment.

Despite all this, there remains a very large group of cases of neurasthenia in which a cure is to be confidently expected if the proper treatment can be secured for the patients, and one of the essentials in the treatment is a hopeful outlook as regards the future on the part of the medical man who is prescribing or carrying out the treatment. So much does this mean to every neurasthenic that it is our duty to extend this mercy to all cases of the kind that come under our notice, even if we have reason to fear a contrary result, for the temporary mental comfort and possible alleviation of suffering more than justify this.

Cases in Children.

The larger my experience of neurasthenia the more am I convinced that children suffer from this affection, and that many a neurotic wreck that we meet with in after life might have been made very different had his malady been recognised and properly treated in childhood. I recognise very fully how difficult it must be at times to be sure that we are dealing with a genuine case in which lack of nerve tone is responsible for the child's behaviour, as contrasted with laziness or malingering. Nevertheless I am convinced that many a boy is being flogged or otherwise punished to-day in consequence of what is as much an illness as any other malady from which he might be suffering, and it has been my happy privilege to help many such young patients, sometimes in the face of strong opposition from schoolmasters and medical men. More often, however, I am glad to say that no opposition has been placed in my way, although it has been painfully obvious that I have been regarded as a "specialist" with little knowledge of boys and their ways, and thus easily taken in by the lazy boy or girl who feigns symptoms of illness in order to escape from the drudgery of work.

Few things have given me greater pleasure than in one such case in which I was able to send a telegram of congratulations to a boy in consequence of a brilliant athletic achievement for his school, a boy who a year or two before was in a condition in which nothing of the kind would have been possible, but who under appropriate treatment made such an excellent recovery as to enable him to distinguish himself in this way.

When the diagnosis is made in these young people I feel confident that the correct treatment in them is a properly conducted "rest cure." In those who have not yet commenced school life this can be done in the patient's own home, if he or she be properly isolated with a good nurse-masseuse who is thoroughly conversant with the details of the treatment. When, however, the patient is at school the cure ought to be conducted in a good home where the treatment is well understood, and in the case of boys it is all-important to select a home where a resident medical man is at the head of affairs, and where in consequence the boy will not be only under petticoat government. The reasons why we should insist on treatment away from the patient's own home in such cases are too obvious to call for further comment.

Treatment.

This leads me to deal with the treatment of neurasthenia in general, and I make no hesitation in at once asserting that in the large majority of cases there is no other method of treatment that offers the same chances of success as the so-called "rest cure," provided it is conducted in a home given up to treatment of the kind, where the atmosphere is impregnated with all that goes to make for success in the treatment, and where the medical man, matron, and nurses all thoroughly understand such patients and know how to deal with them to their best advantage.

Can it be wondered at that this method of treatment so often fails, and in consequence falls into disgrace, when medical men are content to conduct their "rest cures" in homes where the din and clatter of preparations for operations, the smell of chloroform or ether, the groans of sufferings or other ominous sounds that make it only too evident what is happening, so constantly reach the patient, and where the nurses delight in regaling them with the most gruesome details of the latest operations, or of some "interesting" surgical cases that they have nursed in the past?

Personality plays so important a part in the treatment of neurasthenia that it is highly necessary to secure people who, while sympathetic, have nevertheless sufficient force of character to inspire confidence in the patient. One of the first essentials towards the successful treatment of these cases is complete confidence in the person who has prescribed the cure, and in those who are to carry it out. The person who belittles the neurasthenic, or who scoffs at his symptoms, courts failure in the treatment of the case. The attitude to adopt is that of sympathetic attention to the detailed account of his case, and a judicious question interposed from time to time does good, as does a suggestion that this or that symptom exists, for this naturally allows the sufferer to recognise that the person he is consulting is familiar with the symptoms that are to be expected in a case like his, which proves helpful when the time comes for the medical man to try to convince the patient that he is not suffering from anything peculiar or incurable, but that many hundreds of other people have suffered in a similar fashion and have been cured by appropriate treatment.

Much patience is naturally called for in all this, and it is difficult to conceive a moment when it can be more difficult to exercise such patience than when at the end of a long and tiring interview of the kind, with the hospital to attend, a train to catch, or a peppery practitioner to meet in consultation, the proverbial list is extracted, and consulted so as to allow the patient to make quite sure that he has not omitted to mention any important symptoms. A supreme effort is then necessary, and rather than show in the least that we are in a hurry it is better to ask for a second opportunity of going more fully into so important a case, so as to avoid the risk of failing to gain the confidence of the patient through any show of irritation, if success is to be expected to follow the advice we intend to give in regard to treatment.

In addition to the particular class of cases already referred to in which it commonly happens that no form of treatment proves successful, there are others in which a "rest cure" alone, unaided by certain adjuncts in treatment, cannot be expected to do all that is required in the case. There are other cases in which the temperament of the individual makes it impossible to hope for good from the unmodified method of treatment that bears the name "rest cure," others in which the physical condition of the individual does not warrant the hope of success from this method of treatment, and others again in whom the symptoms are so purely psychical, and the physical condition of the patient so good, that there is no reasonable probability that a "rest cure," no matter how prolonged, will do any real good.

Here it is that "suggestion" finds its most useful place in the treatment of neurasthenia. Whether this method of dealing with a given case is to be recommended alone, or whether it should be combined with other methods of treatment, directed towards building up the tone of the nervous system, must depend on the exact combination of symptoms that obtain and on the physical state of the individual. Happily much of the prejudice against this method of treatment that has existed in the minds of the public and members of the medical profession is being gradually removed, and the rooted conviction that if once a patient gives up his "will power" to a hypnotist he is no longer a free agent, but is doomed to be constantly under the domination of the will of the operator, is fast losing the formidable hold it has had on the minds of people. In consequence of this many a sufferer from phobias and obsessions is able to-day to secure relief from a method of treatment that has been denied to others similarly afflicted in the past, and even to many at the present time.

I must leave it to those specially qualified to speak with authority on such matters to deal more fully with this aspect of our subject, but in so doing I cannot help allowing myself the liberty of questioning how far it is wise to probe too deeply into a forgotten past, and as to whether Freud's method of psycho-analysis has not certain limitations that must be recognised if a method of treatment that can help some is not to bring uncalled-for misery to others.

Massage and the application of faradic electricity form part of the usual routine in the ordinary rest cure, but there are patients who are not helped by massage, as it proves too irritating to them, aggravating all of their symptoms and increasing their insomnia when this happens to be a symptom. What is true of massage is applicable to electricity in a much larger proportion of cases in which this method of treatment proves much too stimulating, and is accordingly calculated to do harm rather than good.

One sees so many cases of neurasthenia in which the patients have been treated by massage without being told to rest in conjunction with this treatment, that a word of warning in this connexion does not appear to be out of place. Massage should be only employed in these patients if an adequate amount of rest can be secured during the course of treatment, as otherwise it is calculated to do harm in the majority of cases. The same does not apply to electricity, which can often be employed to advantage in one form or another without its being necessary to insist on rest in the way that is called for with massage. More than this I do not propose to say about this form of treatment, as there are those who are to take part in the discussion whose special knowledge of this subject will permit of their speaking with a degree of authority that I cannot claim.

Of hydropathic methods the pack and warm bath find a place, especially in the treatment of insomnia; while the needle bath and spinal douche, which are useful in many cases of neurasthenia, are especially so in the sexual and in the spinal forms of the affection.

A useful adjunct, and one which is sometimes successful when employed without any other form of treatment, is spermin, alone or combined with various glands of internal secretion. While useful in all forms of neurasthenia, and especially so where there is loss of sexual power, one or other of these preparations has appeared to be helpful in rescuing from cerebral softening the neurasthenic of advancing years, in whom there has been reason to suppose that the cerebral vessels have been none too good and have in no small measure been responsible for the calamity that seemed pending.

Drugs must take an entirely secondary place in the treatment of neurasthenia in so far as a cure is to be expected from their use, but certain of them prove helpful in mitigating the sufferings of these individuals. Tonics often do far more harm than good, and a drug like strychnine behaves in much the same way as electricity in many a case of the affection, and is especially to be avoided where insomnia is a prominent symptom. It, however, finds a useful place in the treatment of sexual and of spinal neurasthenia, and may sometimes be employed with advantage in other forms of the malady when judiciously combined with some sedative such as bromide, a drug that we could ill afford to dispense with in the treatment of this affection. Even in spinal neurasthenia, however, the degree of irritability may preclude the use of strychnine and electricity in the treatment.

Provided it is tolerated by the gastro-intestinal tract arsenic is one of the most useful tonics that can be employed in the treatment of these patients, while glycerophosphates, lecithin, phytin, and in some cases iron, all find a place among the medicines that prove helpful in some cases, but the last-named is usually badly borne by the stomach and is apt to increase the tendency to constipation.

All that need be said of hypnotics is that we should avoid their use as far as possible, but that it is better to secure for the patient a good night of sound sleep from time to time rather than allow him to go night after night without any such relief, and that of the various hypnotics that may be tried medinal and trional prove as useful as any, while morphia should be avoided at all costs, although I was once driven to its use most reluctantly, with the best possible results, in a man who was becoming delirious at night after a prolonged period of insomnia unrelieved by every other hypnotic that was tried.

Medicines also prove helpful in correcting dyspepsia and constipation when other measures in treatment, such as diet, massage, and electricity, have failed to do what is required. An alkaline mixture directed towards combating indigestion is a useful adjunct in the treatment of patients who are undergoing a "rest cure," and in addition to any ordinary aperient that may be found necessary to secure a daily action of the bowels, it is well to prescribe for such patients blue pill or calomel once a week, followed by a saline.

The treatment that is to follow a "rest cure" is little less important than the cure itself. Various forms of mental and physical exercises, including walking and other kinds of exercise in the open air, must now be alternated with periods of rest in the recumbent posture, and any such exercise, whether mental or physical, must be taken short of its inducing undue fatigue. The periods of exercise should be gradually lengthened as the periods of rest are curtailed.

Now it is that other methods of dealing with these patients, such as by change of air, sea voyages, and the like, that usually prove failures before active treatment has been carried out, find a useful place in the cure of cases of neurasthenia. In selecting a place for change of air there can be no doubt that the large majority of neurasthenics do far better at inland bracing places than by the sea, although there are those who benefit by residence at the seaside. In the choice of an inland resort due attention must be paid to the fact that where insomnia is a symptom the higher altitudes of mountainous countries like Switzerland are to be avoided, and the same applies when the heart is irritable with a tendency to palpitation.

Wimpole-street, W.

NOTES ON FOUR CASES OF URETERAL CALCULUS

IN ONE OF WHICH A COMPLETE CAST OF THE URETER WAS PRESENT.

By HAROLD COLLINSON, M.S. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON, LEEDS GENERAL INFIRMARY.

BY improvements in radiography and a more general use of the cystoscope the diagnosis of calculi impacted in the ureter has been simplified and operations for their removal have become increasingly frequent and successful. The number of recorded cases is very large, and little that is new can be said in reference to the methods of operative treatment. I have recently had under my care four cases which present interesting features, one of which I believe is unique as regards the size of the calculus removed, and for that reason I feel that they are worthy of record.

CASE 1. *Calculus impacted in the upper end of the ureter; calculous anuria; nephrotomy.*—The patient, a man aged 40, was admitted to the Leeds Infirmary, under the care of Professor H. Littlewood, on Nov. 10th, 1910. About seven years ago the patient, who had previously enjoyed perfect health, began to be troubled with "gravel stones." He said that during the next five years he passed a stone on the average every six months. Two years ago he was about to be admitted to the infirmary, but two days before he had to come he passed a stone of the size of a pea. From that time until seven weeks ago he was quite well, but then was seized with pain in the left renal region and passed a quantity of blood; he continued to work for a fortnight, but then ceased work and the hæmaturia disappeared. A return to work was followed by a recurrence of the pain and he came to the infirmary. On admission the urine was acid, of specific gravity 1010, with a slight trace of albumin, but no blood. A careful screen examination was made by Dr. L. A. Rowden, the director of the electro-therapeutic department, but no shadow could be detected in either kidney or ureter. No operation was advised, and the man returned home on Nov. 10th. Between that date and Jan. 5th, 1911, he was free from symptoms with the exception of an occasional slight pain in the left loin. On the morning of Jan. 5th he had an acute attack of pain in the left renal area followed by profuse hæmaturia; the same evening he found that he could not pass urine although the pain was much easier. Between that time and his readmission he passed no urine at all.

On readmission on Jan. 7th the patient looked well, the pulse being 72, and the temperature 97·5° F. There had been no vomiting; his mental condition was normal. A catheter withdrew no urine. Various diuretic drugs were tried without result. X ray examination again gave no evidence of calculus in either kidney or ureter. Between the 7th and 10th no urine was passed; there was no vomiting, and with the exception of slight headache he complained of no symptoms. The pulse-rate fell to 60 and the temperature to 97°. Professor Littlewood kindly asked me to see him on the morning of the 10th, and I decided to explore the left kidney.

A lumbar incision was made. The kidney was found to be much hypertrophied, acutely congested, and slightly hydronephrotic. Owing to the risk of lacerating the organ in its acutely congested condition it was thought unwise to attempt to deliver it through the wound, so the pelvis and ureter were explored *in situ* with the finger. A calculus was felt to be filling the upper end of the ureter and projecting into the pelvis. An incision was made on the convex border of the kidney and a finger passed into the pelvis and the calculus, which was of the shape and slightly larger than a date stone, removed. The kidney was drained by a rubber tube passed through the cortical incision. Within five hours the dressings were soaked with blood-stained urine, and at 10 A.M. next day the patient passed 4 oz. of urine naturally. Urine ceased to leak from the wound in a week, and from that time onward the amount of urine passed varied from 24 oz. to as much as 74 oz. in the 24 hours. Recovery was uneventful.

Chemical examination of a portion of the calculus demonstrated that it was composed of practically pure uric acid and it was almost transparent to the X rays, for a screen examination of the stone placed beneath a thin book scarcely revealed a perceptible shadow.

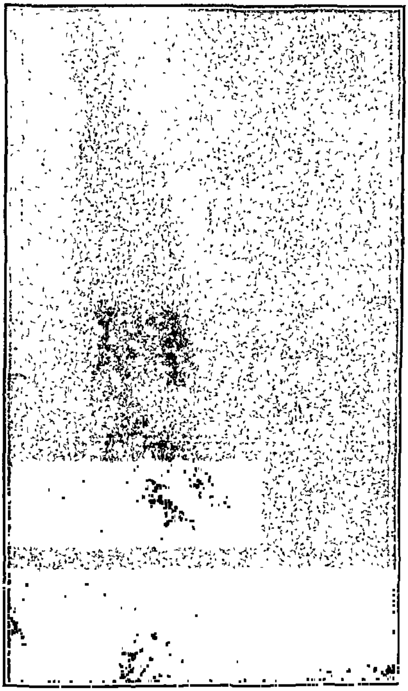
I was naturally anxious to ascertain the condition of the man's right kidney, but thought that the risk of a cystoscopic examination so soon after a complete suppression was unjustifiable. During December, 1911, however, I sent for him and found that he had been following his employment as a miner for some months with no inconvenience, except occasional backache. He consented to come into the hospital for cystoscopy. The appearances were as follows.

The left ureteral orifice was prominent and slightly patulous, with some reddening of the lips. Within 20 minutes of the injection of 1 drachm of 4 per cent. indigo carmine vigorous and frequent jets of deeply blue-stained urine were being ejected. The right ureteral orifice was narrow and slit-like and almost invisible; an occasional muscular contraction could be seen, but during the 15 minutes it was under observation no jet of urine was detected. The conclusion to be drawn is that the right kidney is almost if not entirely functionless. The urine contained a small quantity of albumin and a few pus cells. Within six hours of the cystoscopy the patient had two smart rigors and his temperature rose to 104°, but he was fortunately quite well again in 48 hours.

The case illustrates in a striking manner the remarkable absence of toxic symptoms in obstructive anuria and a difficulty which may arise in deciding upon which kidney to operate. If the localisation of pain had not been so definite the absence of X ray evidence of calculus would have made the decision extremely difficult, and it might have been necessary to explore both kidneys. In these circumstances the prone position recommended by Deanesly[1] would have been of great convenience. The permeability of the stone to the X rays is a circumstance of much interest, for at least two examinations were made under the best possible conditions and the stone was of considerable size. There is no doubt that in cases with definite clinical symptoms pointing to renal calculus a negative X ray examination even by an expert is not a contraindication to operation, for the stone may be quite impossible to detect by such means.

CASE 2. *Calculous cast occupying the whole length of the ureter; nephrectomy and ureterectomy.*—The patient, a female aged 29, was seen in consultation with Dr. Allan R. Wilson, of Leeds, and Dr. Rowden. A skiagram had been taken by Dr. Rowden. (Fig. 1.) This remarkable picture shows two shadows, one extending from the lower pole of the left kidney to the brim of the true pelvis, and the other from this point to the opening of the ureter into the bladder. Apparently two calculi are present, one articulating with the other at a point where the ureter makes a sharp turn over the pelvic brim. Examination of the right kidney was negative. The patient gave the following history. Her mother told her that at the age of 4 years she had a sudden and violent attack of pain in the left kidney region and that she subsequently passed a quantity of blood; this was followed by similar attacks of pain coming at intervals but not always accompanied by hæmaturia. At the age of 12, as the attacks persisted, an X ray examination was made, and although a calculus was diagnosed no operation was advised. Shortly afterwards she went to Scarborough, and whilst there had a number of attacks with considerable hæmaturia; she was confined to bed for several weeks and was evidently extremely ill. After her return the attacks persisted and she frequently had to be sent home from school on account of pain. At the age of 22 she became a barmaid, and although she often had to lie down and occasionally to return home during an attack she managed to keep her situation. The pain appeared to be typical renal colic, beginning in the kidney region and radiating to the groin, not infrequently accompanied by vomiting and usually followed by more or less hæmaturia. A long walk, hurrying, or prolonged standing would almost always precipitate an attack. So far as she was aware she had never passed a calculus naturally. During the last 12 months she had had several attacks of severe hæmaturia.

FIG. 1.



Skiagram from Case 2 showing calculous cast of left ureter, from behind.

On examination she was seen to be a *well-nourished girl*, but distinctly anæmic. The left loin was tender, but the kidney was not palpable. In the position of the ureter, however, a hard tumour could be felt; this extended from the renal fossa to the brim of the pelvis, it followed the line of the ureter, was tender on pressure, very hard, and was apparently fixed against the posterior abdominal wall. It appeared to be about the thickness of the thumb, and the surface was smooth. On rectal examination a similar mass *could be felt in the termination* of the left ureter; its lower extremity was pointed and could be moved slightly from side to side by the finger. It was evident that we had to deal with a calculus or calculi occupying the whole length of the ureter. The urine was alkaline, and contained a quantity of albumin, pus, and amorphous phosphates. A cystoscopic examination was made 20 minutes after the injection of indigo carmine. The bladder was slightly injected but otherwise normal; the right ureteral orifice was normal in appearance, and vigorous jets of blue urine were issuing from it. The left ureteral orifice was situated on a mound-like elevation and no blue urine was passed during several minutes, although occasionally a feeble jet of blood could be seen. A ureteral catheter entered without difficulty, but was arrested at a point about half an inch from the orifice. It was evident that the left kidney was secreting little, if any, urine, and that the right was sufficiently healthy to warrant removal of the former if this should be found necessary. I did not think it was wise to catheterise the right ureter on account of the infected state of the bladder.

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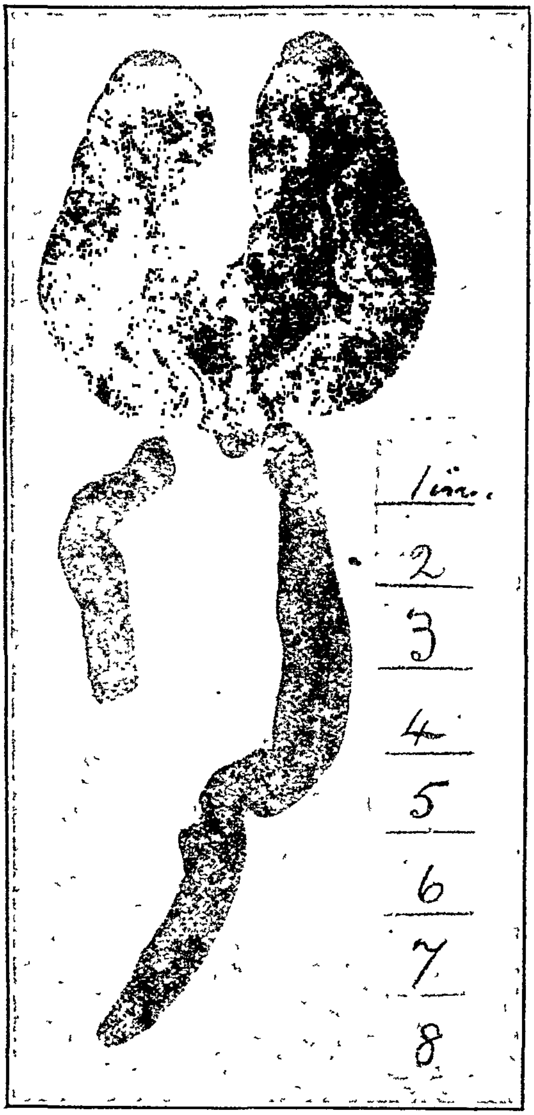
[1] Brit. Med. Jour., 1911, vol. i., p. 1041.

FIG. 2.

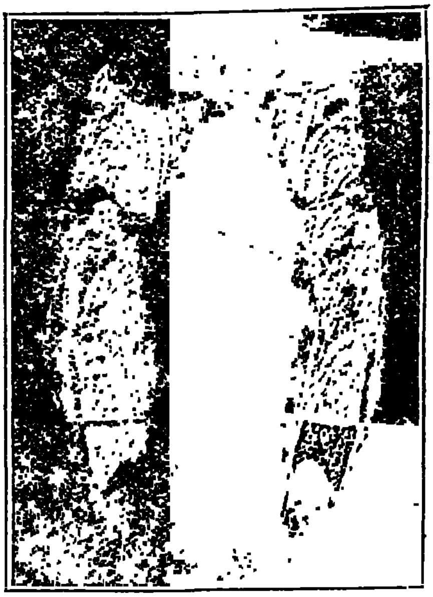


Photograph of kidney (from Case 2), with portion of ureter and calculus.

An operation was performed on March 17th, 1911. The kidney and ureter were exposed retroperitoneally through an incision extending from the costovertebral angle to a point above and in front of the anterior superior spine. The kidney was found to be slightly enlarged and hydronephrotic. No calculi could be felt in it. From a point half an inch below the junction of the ureter with the renal pelvis the former was occupied by what appeared to be a calculous cast; the ureter was therefore isolated to the point at which it crossed the iliac vessels and opened by a longitudinal incision over the upper end of the calculus. This was seized with forceps and a piece 4 inches in length removed without difficulty; the lower end had a fractured surface, and after slightly enlarging the incision a further portion 1 inch in length was removed from the ureter where it lay in front of the iliac artery. This piece had a convex facet on its lower aspect which evidently articulated with the stone filling the pelvic ureter. In order to reach the latter it was necessary slightly to enlarge the parietal incision and to open the ureter just above the pelvic brim, and even then its removal was a matter of considerable difficulty, as the edges of the cup-shaped depression on its upper end were sharp and the posterior margin was hitched beneath the brim in intimate relation to the iliac vessels. The stone was steadied by the pressure of an assistant's finger in the rectum and it was removed in one piece, but the ureter, which was extremely friable, was torn almost across at the site of the incision. It was evident that the kidney and ureter were so much dilated and altered and that so much damage had been done to the latter by the operation that it would be wiser to remove them. The ureter was therefore divided as low down as possible and removed along with the kidney. The lower end was wiped out with pure carbolic acid and dropped back, and a small drainage-tube was passed down to it. Convalescence was quite uneventful and the patient is now well.

Fig. 2 shows the kidney, a portion of the ureter, and the two calculi, beside which a scale in inches has been placed. The upper stone is rather more than 5 inches in length, and the lower 2½ inches. The weight of the first is 840 grains and of the second 440 grains, a total of 1280 grains or 83·2 grammes.

FIG. 3.



Photograph of section of lower calculus (from Case 2), showing uric acid stone with superimposed deposit of phosphates.

So far as I am able to ascertain from the literature the calculus removed in this case is unqiue. It really consists of a cast of the ureter extending from the kidney to the point of entry of the ureter into the vesical wall. A section of the lower calculus (Fig. 3) shows at its lower end a small oval uric acid stone which evidently became impacted during the patient's childhood. Above this successive layers of phosphatic material have been deposited from the urine which was able to trickle past the calculus until the ureter was ultimately filled. A similar specimen is figured by Morris[2] and is in the museum of St. George's Hospital, but this was discovered post mortem.

CASE 3. *Calculus impacted in the iliac portion of the ureter.*—The patient, a man aged 45, was seen in consultation with Dr. L. J. Milne, of Mirfield, in April, 1911. During the past month he had had two attacks of acute pain in the right kidney region shooting down to the groin. These lasted several hours and were followed by slight hæmaturia. Renal calculus was suspected and an X ray examination was made during the first week in May; a shadow of the size of a small bean was seen in the right kidney and was diagnosed as a calculus. As I was going away from home the operation was deferred until June. At the end of May another severe attack occurred and he was sent to the infirmary. On this occasion no shadow could be seen and he returned home in a few days. Four weeks later he had a fourth attack of colic and was readmitted. A screen examination on July 21st was negative, but as the symptoms were so definite and he was quite sure that he had not passed a stone I decided to explore the right kidney.

The operation was performed on July 24th, when a lumbar incision was made. The renal pelvis was slightly dilated, but no calculus could be detected in the substance of the kidney or in the pelvis on palpation. A small incision was made in the cortex and the pelvis explored with the finger; no calculus could be felt. A ureteral bougie was then passed but was arrested above the pelvic brim; the wound was slightly enlarged and the ureter traced down. About half an inch above the point where it crossed the iliac vessels it was found to be obstructed by a small angular calculus of the size of a pea; this was tightly impacted and could not be moved upwards, so the ureter was incised over it at the point of impaction. The wound in the kidney was sutured and the margins of the incision in the ureter brought together by a fine catgut suture. A small rubber drain was passed down to the neighbourhood of the ureteral incision. During the second 24 hours a slight urinous odour was detected in the dressings but quickly disappeared, and recovery was uneventful.

In this case, as in Case 1, X ray examination was negative on two occasions. The first time the patient was screened I myself saw a shadow which I took to be calculus in the kidney, but it was a larger shadow than would be given by the stone removed, and I am certain that no stone was left behind in the kidney at the operation. On the second and third occasions no shadow at all was visible, and it is easy to understand why a small calculus lying at the point from which this was removed should escape detection, for it was lying in front of the thickest portion of the ilium. The case illustrates the necessity for a thorough exploration of the ureter in all operations for renal calculus.

CASE 4. *Calculus impacted in the juxtavesical portion of the ureter; retroperitoneal ureterotomy.*—The patient, a man aged 23, was admitted to the Leeds Infirmary on Oct. 5th, 1911. At the age of 8 years he had a severe attack of renal colic; there was difficulty in micturition during the attack, but no hæmaturia was noted. Between that time and the date of admission he had a large number of similar attacks at varying intervals, and in none of them was there noticeable hæmaturia. The last attack was six weeks before, and on this occasion pain was severe in the hypogastric region and accompanied by cutting pain in the urethra during micturition. His bladder was washed out on two or three occasions with considerable relief. An X ray examination of the kidney showed no calculus, but just above the point where the ureter entered the bladder wall a very distinct shadow was visible. Dr. Rowden kindly took a plate of this for me; it is certainly about the best X ray picture of a ureteral calculus that I have seen. Rectal examination discovered a hard mass in the position of the lower end of the right ureter.

An operation was performed on Oct. 21st. A cystoscopic examination was made 20 minutes after the injection of 1 drachm of 4 per cent. indigo carmine. The left ureteral orifice was normal; vigorous jets of blue urine were issuing. The region of the right ureteral orifice was œdematous and much injected; the orifice could not be identified and no jets of urine were seen to issue during the time of the examination. As I was anxious to know the condition of the kidney the patient was turned upon his side and a lumbar incision made. The pelvis was found to be dilated but not tense; no calculi could be felt. The ureter was dilated to the size of one's little finger, and its walls were much thickened. Evidently the only calculus to be dealt with was the one in the juxtavesical portion of the ureter. To have reached this by extending the lumbar incision would have entailed an extensive division of muscular fibres, so the wound was carefully closed in layers and the patient rolled over on to his back. With the foot of the table slightly raised the usual "gridiron" (McBurney) incision was made as if for the removal of the appendix, but the abdomen was not opened. The peritoneum was stripped from the iliac fossa to the pelvic brim and the ureter isolated; on tracing this down into the pelvis the stone could be felt tightly impacted just at the point of entry into the bladder wall. Efforts "to milk" the calculus upwards were ineffectual until pressure was made upon it by an assistant's finger in the rectum; then careful manipulation succeeded in moving it up about half an inch to a position in which it could be seen and the ureter incised over it. When this was done and the stone removed it was found to be slightly smaller than the shadow in the skiagram and to be covered with projecting spines which were responsible for its immobility. The incision in the ureter was brought together by two catgut stitches of the Lembert type, and a small drain of dental rubber was passed down into the pelvis. For four or five days slight leakage of urine occurred, but at the end of that time it ceased and recovery was uneventful.

In this case, as in Case 2, the history was a long one, and judging from the large size and thickness of the ureter and the character of the stone it is probable that the latter had been lying in the ureter for a number of years. A skiagram of the stone after removal shows a uric acid nucleus with a laminated outer portion. The removal of the stone by the method adopted was not easy, but the difficulties were not nearly so great as one would imagine. If the calculus had not been so tightly impacted and could have been manipulated up the ureter to a point above the pelvic brim its removal would have been extremely simple.

The operative approach to calculi lying in the pelvic portion of the ureter has been the subject of much discussion, and a number of routes have been suggested and most of them practised. Some of these, such as the sacral and parasacral, are unnecessarily difficult and dangerous, and in the male we must make our choice between the following: the perineal, the iliac extraperitoneal, the transperitoneal, or a combination of the last two. The perineal is only applicable to calculi lying in the last inch of the ureter, and has the great disadvantage that only a very limited portion of the duct can be explored, and the calculus is apt to slip away into the dilated ureter above and be lost, an experience which I have had in attempting to remove a stone through the lateral vaginal fornix. It is a method which I should hesitate to adopt. The choice between the extraperitoneal and the transperitoneal routes is a matter of some difficulty. Sinclair White[3] makes a strong appeal for the routine adoption of the transperitoneal operation and records two very successful cases, and to those who are familiar with abdominal surgery this method has much to recommend it. The ease with which the whole length of both ureters can be palpated and the amount of room and good illumination of the operative field afforded must be counted as very great advantages.

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[2] Surgical Diseases of the Kidney and Ureter, vol. ii., p. 450.

[3] Brit. Med. Jour., 1910, vol. i., p. 1.

In cases in which the X rays suggest calculi in both ureters or on the opposite side to that to which the clinical symptoms point, a transperitoneal exploration will clear up the diagnosis, and if calculi are present they can be removed with comparative safety by this route. When a calculus is definitely diagnosed to be impacted in the paraischial or juxtavesical segment, and there is no indication to explore the kidney, a muscle-splitting incision such as I have described is the method of choice, and if the stone is difficult of access extraperitoneally a small incision in the peritoneum will allow of the introduction of the finger to manipulate it into a more accessible position or to fix it during its extraperitoneal removal. This combined method has been adopted by J. H. Gibbon[4] in ten cases with excellent results. By this procedure the amount of traumatism is reduced to a minimum. When a calculus in this position is only diagnosed by attempts to pass a ureteral bougie during exploration of the kidney a separate muscle-splitting incision should be used in preference to the usual extension of the original wound with its extensive division of muscles. R. H. J. Swan[5] describes a similar procedure for ureterectomy in tuberculous kidney, and I have myself used it for a similar purpose with great satisfaction.

The advantage of the extraperitoneal incision of the ureter appears to me to be the very small amount of leakage which occurs even though accurate suture of the incision is impossible; as a matter of fact, I believe it is unnecessary in many cases to close the incision at all, and the absence of sutures makes the subsequent development of stricture less likely. If a calculus be arrested in the intramural portion of the ureter and cannot be dislodged by the ureteral catheter or operating cystoscope it should be removed by the transcystic operation.

Leeds.

THE PRIMARY CAUSE OF RHEUMATOID ARTHRITIS.*

BY H. WARREN CROWE, M.D. OXON.

IN a paper on the etiology of rheumatoid arthritis, published in THE LANCET last May,[1] I described an organism which I had isolated from the urine in a large proportion of cases of rheumatoid arthritis and neuritis, and a further paper complementary to this was published by Dr. A. B. Soltau in the same issue. Though similar in microscopic appearance to the pyogenic staphylococci, there were certain marked points of difference in culture, and of them, the most important for easy distinction was the appearance of the growth on a medium composed of eggs slightly tinted with neutral red. The organism was spoken of under the temporary descriptive name of the staphyloid coccus A. The pyogenic staphylococci produce rose-red colonies which turn to a vivid orange, whereas the colonies of the staphyloid coccus A remain rose-red or become gradually paler. Both produce indentation in the medium. These characteristics—colour and indentation—are diagnostic.

I left two questions open: the first, as to whether this organism was causal or merely casual in rheumatoid arthritis; the second, amongst what group of germs this staphyloid coccus A should properly be classified. This paper is a contribution towards the further elucidation of these two points. To deal with the latter first.

It was first suggested to me by Dr. J. Matthews, of St. Mary's Hospital Inoculation Department, that the germ very probably was one of those which inhabit the human skin, and which were named by Welch[2] the M. epidermidis. This turns out to be the case. The sugar reactions are the same: Broth culture turbid; pigment on agar white; acid and clot in milk; liquefies gelatin slowly; acid formation from action on maltose, lactose, but not mannite, glycerine usually, but not always. The growth on neutral red egg medium is identical and serum reactions are parallel. Fig. 8 shows a series of bloods tested for complement fixation with a typical staphyloid coccus A and a M. epidermidis albus isolated from a self-produced blister on the skin of a girl suffering from hysteria. The broad black bands in the tables indicate complete hæmolysis of sheep's corpuscles, partial hæmolysis being shown by a fainter colouration. These reactions are not exactly parallel, but I think sufficiently so to show that the organisms are closely related. Fig. 1 shows an opsonic curve determined in respect of both organisms. Four specimens of serum were examined—the first before a two-million dose of staphyloid stock vaccine was given, and the second, third, and fourth 12 hours, 24 hours, and 48 hours respectively after the injection. The curves are similar, though not identical. The only difference which I have found to exist between the particular cultures used for these experiments is that the staphyloid coccus A liquefies gelatin at a slower rate than the epidermidis albus.

In order to avoid the further use of such a clumsy expression as the staphyloid coccus A, I wish at once to give the germ what I suggest should be its correct biological title, but for this purpose one must anticipate slightly, and assume the proofs, which I shall immediately put forward, that this organism is the primary cause of rheumatoid arthritis. It would then be appropriate to denominate the microbe as the M. epidermidis, variety deformans, or perhaps, since that is somewhat unwieldy for common use, I may be permitted to allude to it in future under the shorter name of the M. deformans. I would like here to express my great appreciation of Professor R. T. Hewlett's kind assistance in helping me to decide on a proper title.

Permit me now to enter upon the justification of what must, I am certain, seem to be a very great assumption; and to clear the ground, under this term rheumatoid arthritis I would include only those forms of arthritis which present no demonstrable infection of the joints, and which conform more or less strictly to that typical primary polyarticular disease, sometimes called polyarthritis deformans, characterised by fusiform swelling and redness of the joints, frequently symmetrical in character, usually commencing in the fingers, and associated with glossiness of the skin and muscular degenerations and contractures. I expressly exclude rheumatic joints, and all cases of infective arthritis, such as arise as the result of the entry of the gonococcus, pneumococcus, and other germs into the joint itself.

Bacteriologists agree that serum reactions hold a very important place in proving a causal connexion between a given disease and a given organism. Of these, the complement-fixation reaction is probably the most important. The first four tables give the results of sera tested by this method. The exact technique was as follows. An emulsion of a 24 hours' culture of the M. deformans was standardised and killed by heating at 60°C. for an hour. The sera of Fig. 4 were all freshly drawn and no complement was added. In the rest of the tables all serum was heated for 15 minutes at 60°C. to destroy complement, and then fresh complement in the form of normal human serum was added. Fleming's method was followed. Two volumes of serum, one being that under examination, the other fresh human serum (complement), were run into miniature test tubes, and four volumes of normal saline or the various dilutions of the standardised emulsion respectively added. The mixture was kept at blood heat for 20 minutes, when one volume of 5 per cent. (or in some cases 10 per cent.) washed sheep's corpuscles were stirred into each tube. A reading was taken after a further half to three-quarters of an hour at blood heat. The thick cross line is drawn at that point below which no control blood fails to show hæmolysis. With a view to avoiding all personal bias, Fleet-Surgeon Kilroy kindly performed some independent tests for me without knowledge of the sources of the majority of the sera, and in Figs. 4 and 7 his results are recorded. I must express my very deep sense of gratitude to him for his kind assistance, which was the more valuable on account of his extended experiments in the complement-fixation test, commonly known as the Wassermann reaction for syphilis.

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[4] Annals of Surgery, 1913, p. 232.

[5] Guy's Hospital Reports, vol. lxiv., p. 39.

* A paper read before the Pathological Section of the Royal Society of Medicine on Nov. [illegible], 1913.

[1] THE LANCET, May 17th, 1913, p. 1377.

[2] William H. Welch, M.D.: Conditions underlying the Infection of Wounds, American Journal of the Medical Sciences, July-December, 1891

In Fig. 4 it is seen that a very wide series of dilutions were examined. The first blood and the last three were controls from perfectly healthy individuals. The second serum was taken from an extreme case of rheumatoid arthritis; the third also from a case of frank rheumatoid arthritis; the fourth from a patient who had had rheumatic fever and suffered from chronic rheumatism, but had no symptoms whatever of rheumatoid arthritis or neuritis. In Fig. 5 the same emulsion was used, the first and fifth sera being controls. The middle three were each cases of rheumatoid arthritis. Fig. 6 shows some eight cases, in which the reaction was used for diagnosis where an early stage of rheumatoid arthritis was suspected, but the organism was not found in the urine at the first attempt. All suspects were positive with two exceptions; No. 12, in which the symptoms were confined to two joints, and these greatly enlarged by osteophytes. It was, in fact, a case of osteoarthritis, and not necessarily related in any way to rheumatoid arthritis. The opinion has been expressed that the cure of rheumatoid arthritis results in the formation of osteophytes producing a condition of osteoarthritis, but whether this be true, or whether, on the other hand, osteoarthritis and rheumatoid arthritis are different diseases, in either case a negative complement-fixation test was to be expected. The other exception, No. 9, was a very interesting and instructive case. Rheumatoid arthritis in typical form attacked a lad whilst in hospital. The test was performed three weeks *after* the disease appeared. The result was negative. A month later, however, on testing the blood again, a positive result was obtained (No. 19 of Fig. 7). After a further month, during which the patient had been treated by vaccines of this organism, and when the disease seemed to be fast disappearing, a further test was performed. The result was negative. Fig. 7, one of Fleet-Surgeon Kilroy's, is, I think, extremely convincing. He informs me that Serum No. 1 was taken from a case of acute Bright's disease, whose urine had yielded the M. deformans together with a streptococcus, and the blood was taken after he had regained his health. The result of the test was negative. Sera 2, 3, 4, 15 were normal men; 16, 17, 18, 19, all typical rheumatoid arthritis; 9, a convalescent pneumonia. It will be seen that all the rheumatoid patients gave positive results, and none of the others. Complement-fixation tests, then, afford conclusive evidence that the M. deformans is pathogenic in rheumatoid arthritis.

In the light of these tests, and with the addition of all cases seen up to September last, I am now able to revise the incidence table previously published.[3] Taking all positive tests to indicate that the organism is present and pathogenic, in 26 cases of typical rheumatoid arthritis the organism was present in all. It was cultured in 22 and positive complement-fixation was demonstrated in the remaining four. In a further 14 less severe and doubtful cases of rheumatoid arthritis, the organism occurred in 11, being cultured from 9. If neuritis is included, and for reasons which will shortly appear it seems that neuritis not improbably should be so included, the total number of cases becomes 48, and the incidence 45—*that is to say, 93·75 per cent.* *Streptococci* were present in addition to the M. deformans in 21 cases and B. coli in 7. It must not be supposed that the M. deformans never appears in the urine in any other conditions. I have found it in two or three cases of mild septicæmia, occasionally in neurasthenia, and also in rheumatism; among 35 of such cases recently investigated it has appeared 13 times.

I turn now to other serological evidence.

Agglutination tests.—These are not very satisfactory. Some cultures seem to give good tests; others not so. A strain with which I was working earlier gave fair agglutination; but my present ones fail to do so. Fig. 9 shows an agglutination series. Nos. 5 and 6 were control bloods; in Nos. 1 and 4 the M. deformans was present; Nos. 2 and 3 were cases of frank rheumatoid arthritis. The same sera were used as for complement-deviation test (Fig. 4). Again the evidence, such as it is, is favourable.

Opsonic data.—Figs. 2 and 3 show the opsonic response to a medium dose of a vaccine of the organism during a course of treatment. In both charts a typical immunity curve is developed. The patients suffered from typical rheumatoid arthritis. *It is of interest, and, I think, of importance*, to note that where a negative phase is seen as in these two charts it is almost invariably associated with increased swelling of the affected joints and marked rigidity. An experimental dose of M. deformans vaccine given to a normal person produced no fluctuation in the index. To use a legal phrase, this completes the evidence for the prosecution of the M. deformans. In order to summarise the facts *here mentioned* and bring them into line with others, some of which have and from serum tests carried out on the same lines as above one is impelled to the conclusion that neuritis (excluding perhaps toxic forms) and rheumatoid arthritis are one and the same disease, both produced primarily by the organism which I have described, though frequently complicated by infections with other pathogenic germs; and (4) spinal lesions have frequently been described in cases of rheumatoid arthritis.[6] Further investigations are required, but they should be directed either towards searching for the M. deformans in some portion of the nervous system or towards demonstrating the presence of some nerve toxin produced by it. It will now be plain why I include neuritis in the incidence table.

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[3] THE LANCET, May 17th, 1913, p. 1377.

Again, it may be objected that the M. deformans may play merely a similar rôle to the M. neoformans in cancer; that one is only dealing with a secondary infection, and that the primary cause is still to be sought. It is conceivable, but seems to me unnecessary, to invoke such complexity for the etiology of rheumatoid arthritis. Cancer differs in that the M. neoformans hypothesis is obviously insufficient by itself to explain the disease. Streptococci are, I think, accepted now as sufficient in themselves to produce rheumatism, and why not the M. deformans to produce rheumatoid arthritis?

Lastly, a plaint may be lodged that no animal experiments have been done. I regret it, but facilities have been lacking, and I thought it needless to defer my communication on that account. All the facts were remarkably favourable, so that they seemed sufficient in themselves to prove my hypothesis, and further, with the advent of serum reactions, than which no evidence can be more convincing, the necessity for fulfilling Koch's postulates in their entirety before assuming the microbial cause of a disease has somewhat diminished. On the first opportunity, however, the attempt will be made.

In conclusion, then, I would describe rheumatoid arthritis as a disease caused primarily by a common inhabitant of the skin, the micrococcus epidermidis, variety deformans, or more shortly, the micrococcus deformans, and I would further suggest that the germ produces the disorder mainly by its action on some portion of the nervous system, and lastly that other pathogenic germs are frequently actively engaged as a secondary mixed infection.

My best thanks are due to Fleet-Surgeon L. Kilroy and Professor Hewlett, whose assistance I have already acknowledged, and to all those medical men who have been instrumental in supplying me with material for this investigation, amongst whom I should like to mention more particularly Dr. A. B. Soltau, of Plymouth.

Yelverton, Devon.

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[6] A bibliography of the subject will be found in the paper read before the Cambridge Medical Society on March 6th, 1903, by P. W. Latham, M.D.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce new editions of the following: "The Diseases of Children," by Sir James Goodhart and Dr. G. F. Still (tenth edition, revised); "A Short Practice of Midwifery for Nurses," by Dr. Henry Jellett, master of the Rotunda Hospital, Dublin (fourth edition, revised); and "Lectures on Medicine to Nurses," by Dr. Herbert E. Cuff, late medical superintendent of the North-Eastern Fever Hospital, London (sixth edition).

A CASE OF TUMOUR OF THE PITUITARY BODY.

BY A. L. TAYLOR, B.Sc., M.B. EDIN., M.R.C.P. EDIN.,
ASSISTANT MEDICAL OFFICER, DERBY BOROUGH ASYLUM.

THERE are in the following case features which, I believe, justify its publication in the columns of THE LANCET.

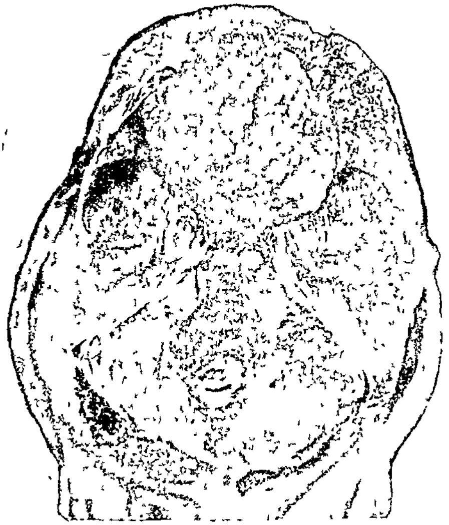
The patient, a married woman, over 40 years of age, first came under observation in 1908 on account of mental symptoms. These at first consisted of apathy, with loss of memory and emotional reaction. An ophthalmoscopic examination at this time revealed nothing abnormal, and there was no complaint of headache or vomiting; the mental state would not allow of the fields of vision being tested. Frequent incontinence of urine and fæces was present, due probably to the mental indifference. In December, 1908, she was sent to the Derby County Asylum, and while there the mental apathy became more profound. In April, 1909, she was tried at home again, but did not improve, and had several fits indistinguishable from ordinary epileptic seizures. All this time she took her food well, but remained totally indifferent to everything else, being very somnolent and staying in bed all day. She was readmitted to the Derby County Asylum in October, 1911, and transferred to the Borough Asylum in December, 1911.

On admission here she was a woman aged 48, of middle height, dark complexion, and satisfactory general nutrition; the hands and feet were small and well formed. Physical examination revealed a mitral presystolic murmur, somewhat myotic pupils with a sluggish light reaction, dull flexor plantar reflexes, ordinary knee-jerks, and no diminution of the pain sense so far as could be made out. The urine beyond being rather concentrated showed no abnormal features. The mental condition was one of apathetic dementia with inability to answer any but the very simplest questions, and complete indifference to the passage of the evacuations; she complained of no pain; she resented greatly any attempt to examine her eyes, so that ophthalmoscopy was not possible, but she certainly suffered from marked dimness of vision, as evinced by her manner of eating and going about. This became more pronounced from month to month. On her admission there was no physical sign of paralysis or paresis, and she was able to walk quite well. Her mental symptoms became more accentuated, and in March and April she had two fits with bilateral convulsions. About this time weakness of the right hand showed itself, and she also had several mild attacks of painless vomiting. On June 1st, 1912, she was noticed to become even more drowsy than usual, and in the evening passed into a series of fits, 15 of which succeeded one another without return of consciousness. She remained comatose with very stertorous breathing, and died in the middle of the following day.

Necropsy.—On removing the calvarium, which was markedly increased in thickness and density, especially in the frontal region, the following evidence of extreme cerebral compression was noted: The dura was very tense, the subdural space practically obliterated, and the superficial convolutions perfectly flattened out. On removing the brain an ovoid tumour was seen in the centre of the anterior cranial fossa; it measured 4·5 cm. transversely and 6 cm. antero-posteriorly, was firmly attached to the sella turcica, and less so to the cribriform plate of the ethmoid. The surface was somewhat nodular and the consistence firm, the growth being quite circumscribed, and only exerting pressure on the adjacent parts. (See Fig. 1.) A deep hollow was thus present on the base of the brain extending from the posterior perforated spot to the frontal pole, and being widest midway between these two points. The floor of the hollow consisted of the flattened convolutions of the mesial and inferior surfaces of the frontal lobes, the optic chiasma and the olfactory tracts and lobes not being distinguishable. Sections of the hardened brain showed that the cavities of the lateral and third ventricles were almost absent; the brain was otherwise healthy to the naked eye, and weighed 41⅓ oz. The tumour was kindly examined by Dr. Ford Robertson, of the Scottish Asylums Laboratory, and proved to be an ordinary spindle-celled sarcoma. (Fig. 2.)

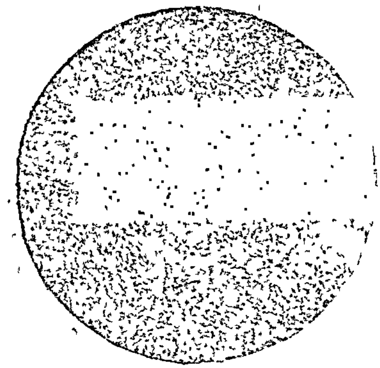
One of the most interesting features of the case is the pressure on the frontal lobes producing very definite and discrete mental symptoms—i.e., gradually increasing apathy and emotional atrophy, ending in profound stupor or dementia. This fact agrees with the current theory that the frontal cortex is the seat of the higher intellectual and emotional processes. One finds a record of a very similar case[1] in which there were no fits, the only symptoms being amaurosis and progressive intellectual impairment. A case of sarcoma of the infundibulum[2] of a much more malignant nature than the above occurred in this asylum three years ago; there were epileptic fits, and the mental state was acute excitement followed by stupor. The presence or absence of fits in these cases may only be a matter of individual susceptibility. The three cases mentioned are excellent examples of tumours growing from the pituitary without any dystrophic symptoms.

FIG. 1.



Photograph of floor of cranium showing tumour of pituitary body

FIG. 2



Microphotograph of sarcoma of pituitary body.

I should like to thank Dr. G. Bruce, of Melbourne, Derbyshire, for information as to the early history, Dr. W. Ford Robertson for his kind assistance, and Dr. S. R. Macphail, medical superintendent of the Derby Borough Asylum, for permission to publish the case.

Derby.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Clinical Cases.—The Treatment of Syphilis.

A MEETING of this section was held on Nov. 14th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Dr. A. M. GOSSAGE showed a case of Subcutaneous Granulomata. The patient was a girl, aged 3½, who was admitted into hospital on August 12th last for stiffness in the left knee and pain and stiffness in the left wrist. At the age of 2 her mother noticed that the left knee was held stiff and slightly bent so as to make her walk awkwardly. Lately this had been worse, and the child frequently wanted to rest. Three days before admission the left hand was noticed to be doubled up, and she complained of pain in her wrist. No lumps had been noticed in the trunk or head. On admission she was found to be a healthy-looking child. The left wrist was flexed and the dorsum of the left hand was somewhat swollen; anteriorly over the tendons at the wrist there was [illegible] There were about 20 subcutaneous nodules, from the size of a millet seed up to a small pea, under the skin of the scalp, neck, and trunk. These were not tender or painful, and the skin moved over them freely, but in some places was slightly discoloured. Those over the scapula moved with the movements of the arm. The swelling in front of the wrist seemed composed of several nodules matted together, but there was also some swelling of the skin itself, and the tendons were involved in the mass. The left knee was apparently normal, and no other abnormality could be found elsewhere. In t[illegible] swelling [illegible] some in f[illegible] pre- swe[illegible] cisely similar condition was found to that in the left wrist—i.e., some thickening and discolouration of the skin, and subcutaneous swelling, which appeared to be formed of several nodules matted together, with involvement of the subjacent tendons. On Sept. 16th it was noticed that the right knee was sometimes drawn up, and that the child seemed unable to straighten the leg again, but forcible replacement by the nurse caused no pain, and the knee subsequently seemed normal, and there was no swelling. There was no alteration in the condition until Oct. 3rd, when she was ordered iodide of potassium, 3 grs. three times a day. Since then the tumours had got smaller and many had disappeared, whilst the swelling in front of the wrists had diminished, and the movements of the hands and wrists had become painless and more free. On Sept. 9th two of the tumours were cut out, and were subsequently examined by Dr. R. G. Hebb, who reported as follows: Both tumours were surrounded by a zone of connective tissue in which were reticular histological tubercles with numerous large giant cells. The central areas were filled with some homogeneous substance which was crowded with small cells of irregular shape; also certain [illegible] bodies somew[illegible] crystals were [illegible] The nature of secretions in the metabolism of pregnancy, we can, in the same way, observe the effects of deviation from the normal. The second part of the introductory paper dealt with pathological and therapeutical considerations. First, derangements in the development of the genital organs and their functions were discussed under the following headings: (1) Imperfect and irregular primary development of the genitalia; and (2) irregular secondary development of the female genitalia and functions. It was shown under the first heading how pseudo-hermaphroditism might be produced, especially by hyperplasia of the suprarenal cortex. And under the second heading it was demonstrated how the onset of puberty (precocious or delayed) was under the influence of the organs of internal secretion. Next, derangements of the fully established female characteristics and functions were discussed. This part of the subject was dealt with at some length, since it was of considerable interest from a clinical point of view. The derangements of the fully developed sexual characteristics first came under notice. Then the derangements of the fully established functions were considered from the points of view of increased and decreased secretion from each special organ. Many clinical phenomena in connexion with menstruation and pregnancy were discussed in detail. The results of experimental investigations of the metabolism of animals after partial or complete removal of the different ductless glands were demonstrated by means of tables; and a series of photo-micrographs were shown to illustrate the structural effects produced on the other organs of internal secretion after the partial or complete removal of one of the members of the endocrinous system.

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[1] Oresti Sandri, Rivista di Patologia Nervosa e Mentale, vol. xiv, Feb. 1909.

[2] W. Boyd, THE LANCET, Oct. 15th, 1910, p. 1129.

Dr. LOUISE MCILROY, who had been specially invited to continue the discussion,[3] considered the subject under the following headings:—1. The importance of comparisons between the results of experimental work upon laboratory animals and clinical observations—examples. 2. The influence of the internal secretory organs upon development. 3. The constituents of the ovary and their function. 4. The necessity for clinical records upon the effects of oöphorectomy before puberty, during reproductive life, and during pregnancy. 5. The effects of oöphorectomy alone as compared with oöphorectory combined with complete hysterectomy; influence of uterine secretion. 6. The clinical aspect of ovarian transplantation. 7. The influence of ovarian secretion upon metabolism, lactation, and the other internal secretory organs. 8. The influence of the internal secretory organs upon disorders of menstruation, with special reference to precocious menstruation, menorrhagia of puberty, and early menopause. 9. The treatment of gynæcological conditions by glandular extracts—examples. 10. The relationship between general toxæmias and derangements of the internal secretory organs. Dr. McIlroy thought it a happy augury for future work that there should be so much collaboration between the laboratory worker and the clinician. Much confusion as to the function of the ductless glands arose from want of proper comparison of the variations in different species of animals and of the human individual. The secretory organs modified sex development, but did not cause the assumption of secondary characteristics, as these will probably be found to be due to cell development in very early embryonic life. The effects of oophorectomy alone as compared with combined hysterectomy were mentioned, and the influence of the uterine mucosa discussed; the clinical aspect of ovarian transplantation, the influence of ovarian secretion upon metabolism, and upon menstruation in correlation with the other internal secretory organs were brought forward. Treatment of menopausal symptoms by ovarian and mammary extracts, and menorrhagia by pituitary extract by the mouth gave encouraging results. The influence of the thyroid gland upon toxic conditions was a subject of great importance in gynæcological and obstetric conditions.

The two papers led to a very interesting discussion, in which many invited speakers took part. Among those who spoke were the PRESIDENT, Professor F. H. A. MARSHALL, Dr. T. R. ELLIOTT, Mr. JAMES BERRY, Dr. LEONARD WILLIAMS, Dr. R. MURRAY LESLIE, Dr. FLORENCE A. STONEY, Dr. AMAND ROUTH, and Dr. H. R. HARROWER.

Dr. BLAIR BELL replied.

SECTION OF ANÆSTHETICS.

Tachycardia during Anæsthesia.—Paroxysmal Tachycardia.—Anoci-Association.

A MEETING of this section was held on Nov. 7th, Dr. J. BLUMFELD, the President, being in the chair.

Dr. A. L. FLEMMING gave particulars of a case of extraordinary Tachycardia during Anæsthesia. The patient was a healthy girl, aged 12, undergoing radical cure for hernia. Her heart was normal. The pulse-rate, noted before operation, was 84. No alkaloids had been given previously. Anæsthesia was normally induced with open ether. Five minutes later, after operation had been commenced but before any traction had been made on the sac, the pulse-rate was noticed to have increased to 274. The patient was apparently well; anæsthesia was moderate, and there was no cyanosis. Later the pulse-rate was 288. A change was made to chloroform and then back to ether without any alteration of the pulse-rate. The operation lasted about 30 minutes. Ten minutes after the operation there was some retching, the pulse-rate being 264. The patient was then turned on to her left side, whem the pulse almost immediately dropped to 84.

Dr. W. BEZLY THORNE related the occurrence of Paroxysmal Tachycardia, lasting from four to six seconds, intermitting with a pulse-rate of 80, in a case of strangulated hernia in a patient suffering with aortic regurgitation and aneurysm of the common carotid artery. Preliminary doses of morphia and atropine were given; infiltration of novocaine and adrenalin, followed by chloroform at the operation. The tachycardia occurred the day after operation. Dr. Thorne also mentioned a case of tachycardia in which pressure over the præcordium had given relief.

A paper by Mr. J. H. CHALDECOTT was read (in his absence) by Mr. BRYAN on Some Impressions of Anoci-Association. He briefly described Dr. Crile's method[1]—viz., the hypodermic administration of morphia, atropine, and scopolamine previous to the operation; the employment of nitrous oxide and oxygen as a general anæsthetic; and, lastly, blocking of nerve channels by infiltration of the tissues with solutions of novocaine, urea, and quinine. He pointed out that the nitrous oxide was only used to keep the patient unconscious, and that for surgical anæsthesia one had to rely on the infiltration, any insufficiency of which would not be masked by the nitrous oxide. The chief difficulties of administration were in the early stages, especially if the patient had to be moved or lifted, and also during rough manipulations, and from the presence of gauze packings, &c., of the abdomen. Hewitt's apparatus was used; no rebreathing was permitted. With an experience of 60 cases his results had been very encouraging, unpleasant after-effects being insignificant, except in a few cases He thought that a good trial of the method would prove it of great value, especially in bad cases.

Mr. C. W. G. BRYAN read a communication on Some Points in the Technique of Anoci-Association (Crile). The injection of local analgesics, he said, was to overcome the evils of shock, cyanosis, and rigidity under nitrous oxide and oxygen. He agreed with Crile that success largely depended upon the local injections and not upon increasing the depth of anæsthesia. Deep general anæsthesia merely masked the trauma inflicted on the patient's nervous system, and with this method painful manipulations were at once made manifest by cyanosis and rigidity. The injection should be made rapidly with pressure, into the various layers, before incision. Abdominal wall infiltration was sufficient where there was not much dragging on viscera. For complicated and deeper manipulations, retroperitoneal and mesenteric infiltrations would be necessary. Difficulty from cyanosis and rigidity was experienced in gastro-enterostomies and operations in the left upper part of the abdomen. Probably injections in the region of the cœliac axis would block sensations from most of the abdominal viscera.—A discussion followed in which the PRESIDENT, Dr. MAY DICKINSON BERRY, Mr. C. CARTER BRAINE, and others took part.

Mr. R. E. APPERLY gave a demonstration of a new Ether Junker Inhaler for nose and throat work.

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[3] This paper also will be published in full in the Proceedings of the Royal Society of Medicine.

[1] THE LANCET, July 5th, 1913, p. 7.

SECTION OF LARYNGOLOGY

Exhibition of Cases and Specimens

A MEETING of this section was held on Nov 7th, Dr D R PATERSON, the President (introduced by Mr HERBERT TILLEY, the retiring President), being in the chair

The PRESIDENT exhibited the following (1) A Piece of Button removed from the Left Bronchus, (2) A Piece of Mutton Bone impacted in the Right Bronchus, and (3) A Feather, six inches long, removed from the Trachea and Right Bronchus —The discussion was chiefly confined to the variations in symptoms produced by foreign bodies in the air passages and to methods adopted for their removal, and was taken part in by Mr F H WESTMACOTT, Dr G W HILL Dr W JOBSON HORNE, Mr C W HOPE, Dr H J DAVIS, Mr H LAMBERT LACK, Mr W G HOWARTH, Dr J DONELAN, and Sir STCLAIR THOMSON, the last named remarking that the mortality from foreign bodies in the air passages, which was formerly as high as 60 per cent, had dropped to about 1 to 3 per cent since the introduction of the improved methods of treatment

Mr TILLEY The removal of a Green pea from the Right Bronchus by an improvised method

Dr P WATSON WILLIAMS read notes of a case of Cerebro spinal Rhinorrhœa, with subsequent Sinusitis, operation, death

Dr DAN MCKENZIE Endothelioma of the Ethmoid, which showed no sign of recurrence six months after removal by operation

Mr W M MOLLISON A case of Epithelioma of the Floor of the Mouth and Tongue and Ulceration of Soft Palate —Mr TILLEY drew attention to the tendency of chronic ulceration of the mouth becoming malignant —Mr P R W DE SANTI, Mr W D HARMER, and Mr H CLAYTON FOX also discussed the case

Mr PHILIP TURNER and Mr MOLLISON A case of Pneumococcal Infection of the Mouth and Pharynx —Mr TURNER remarked on the great improvement of the case without the aid of vaccine treatment

Mr THOMAS GUTHRIE Tumour of the Palate (*micro scopical specimen*) —The PRESIDENT remarked on the similarity between the structure of the specimen and that of the mucous glands found in the palate of the rat

Dr DONELAN A case of Double Paralysis of the Superior Laryngeal Nerves of a patient in the course of disseminated sclerosis from lead poisoning

Mr F B LAYTON (1) Fixed Crico arytenoid Joint, phthisis, healed tertiary syphilis, and (2) Mass attached to the Laryngeal Wall —The PRESIDENT suggested that this was due to prolapse of the ventricle

Mr LAYTON also showed a Tumour of the Right Vocal Cord —Varying opinions were expressed as to whether the case was one of pachydermia or fibroma laryngis

Mr WESTMACOTT 1 New pattern Knife and Cartilage Scissors with Specimens removed by them from cases of deviated septa 2 Specimens from successive cases of Tonsils enucleated by Matthieu's guillotine 3 Flexible Rubber Finger Guard

Mr H A KISCH The Rhinomanometer —The PRESIDENT remarked on the difficulty of maintaining the nasal cavities undisturbed during the use of this kind of instrument

Dr DAVIS 1 A case of Minute Growth (*? fibroma*) on the Left Vocal Cord 2 Skiagram of a Farthing in the Œsophagus of a Baby aged 2 years 3 Fixation of the Right Vocal Cord, producing no symptoms, in a man aged 61 4 Skiagram of a Face showing Arrested Development of the Lower Jaw

Dr J DUNDAS GRANT A case of small Tuberculous Ulcer localised at the anterior part of the left aryepiglottic fold

Mr HARMER Perforation of the Septum Nasi causing Inspiratory Whistle

Mr DE SANTI Case of Epithelioma of the Epiglottis with malignant glands in the neck after operation in March, 1913

Mr J H CONNOLLY A boy, aged 5 years, with a large Pulsating Vessel in the right portion of the Posterior Pharyngeal Wall

MEDICAL SOCIETY OF LONDON.

The Treatment of Neurasthenia

A MEETING of this society was held on Nov 10th, Sir DAVID FERRIER, the President, being in the chair

Dr. J S RISIEN RUSSELL opened a discussion on the Treatment of Neurasthenia His paper will be found in full on p 1453 of this issue

Dr JAMES TAYLOR said that before endeavouring to deal with the subject of the treatment of neurasthenia he would like to state the conception which he had of this as a disease The name was so convenient that he at least was, he knew, sometimes inclined to pigeon hole under it a good many cases which perhaps did not properly belong there. So he had endeavoured to classify for his own satisfaction the cases which in his opinion, were properly regarded as really neurasthenic He had been forced, as the result of experience, to the conclusion that they had frequently to deal with a neurasthenic temperament—not really a disease He thought they were all familiar with the temperament It was characterised by over anxiety and apprehensiveness as to any action contemplated or the effects of it when performed The subjects of it were very introspective, and what one might call their ' mental refraction ' was quite erroneous They were often extremely ignorant of the simplest physiological facts, and had all kinds of curious notions as to the functions and arrangements of the internal organs In many instances they were sexually vicious, but he could not satisfy himself that this was an inevitable accompaniment of the neurasthenic temperament Those in the room who were students in Edinburgh 25 years ago or more would remember how often in the medical wards there were, as patients, men from the Orkney and Shetland Isles They were usually physically sound of characteristic Norse appearance yet acutely miserable in a negative kind of way, and in spite of their profound religiousness "without God and without hope in the world" They had no energy, they were full of vague discomforts, and they imagined all kinds of visceral anomalies—that food did them no good because it remained for days in the stomach, that it did not nourish them because it passed unchanged, and so on These patients did not develop any real mental disease, and they usually left the hospital in the same state in which they came He had only seen one hospital case of this "morbus orcadensis" in London, actually from the remote islands All these were characteristic cases of what he would venture to call the neurasthenic temperament No doubt the cases usually seen of this temperament were more sophisticated They had a greater command of words, but he ventured to think that their description of their condition although more articulate was not less vague He had been much interested to learn from American text-books that in America the immigrant Scandinavian was regarded as more prone to neurasthenia than most As to treatment in this condition, he believed it was almost always inefficacious, although a few symptoms might be relieved As to what he would venture to call induced neurasthenia he was inclined to think that in the vast majority of cases it was the result of hard physical strain, combined with anxiety or unsympathetic environment or uncongenial work Notorious examples were that of a devoted daughter of a poor physique nursing her mother whom illness had made querulous and exacting, a man of too fine fibre for the rough and tumble and insincerity of politics whose conscientious attendance at dull and unsatisfactory debates had broken down his physical resistance, the over worked doctor whom anxieties and worries about patients and perhaps some personal difficulties about money matters had exhausted in regard to his physical stamina and deprived of sufficient sleep and recreation Even worse was the clergyman often young, whose emotional temperament had been tried by the various demands upon it and whose reason had been more or less outraged by the attempt to swallow dogmas which no reasonable man could digest *Apropos* of this he thought it was almost worth quoting a remark of one who was not only a literary man but also a doctor, Oliver Wendell Holmes —

> Stupidity often saves a man from going mad We frequently see persons in insane hospitals who went there in consequence of what are called religious mental disturbances I confess that I think better of

them than of many who hold the same notions, and keep their wits and appear to enjoy life very well outside of the asylums. Any decent person ought to go mad if he really holds such or such opinions. It is very much to his discredit in every point of view if he does not.

All these patients suffered from similar physical conditions—they were easily tired, they were irritable, they slept badly, they suffered from headaches (often worse in the morning), and they also complained usually of backache. In these cases also the question of sexual influence often arose. In many cases he felt sure it was a part, in many it was not. Medical treatment of all such cases must in his opinion follow similar lines. They must be removed from their work because it had got to dominate them like a nightmare. They must be put under totally different surroundings and kept away from anything likely to excite the old feelings of helplessness and almost despair. He did not think that the ordinary rest cure was at all suitable for the great majority of such cases. Complete isolation often intensified the trouble; each case must be tackled as a separate problem, and the conditions as far as possible chosen which were likely to favour recovery. He could not deny that in most cases rest in bed for at least a part of the day with massage and electrical treatment were good, but he did not think that practitioners ought to be satisfied with prescribing this. They ought to see that the rest of the day was filled up with appropriate recreation, and if the patient was so ill as to need the whole day in bed then they must see to it that he was not allowed to brood, and that isolation was not thrust upon him to his undoing. It was impossible to enter into the details of such treatment because, as he had said, each case must be tackled as an individual problem. In regard to drugs he pinned his faith for the most part to sedatives and stimulants, of which bromide and strychnia were the types, and he was convinced that those drugs judiciously used in such cases could not do anything but good.

Dr. T. B. Hyslop said that the term "neurasthenia" had been gradually extended in its connotation to include so many types of psychoneurosis that it was exceedingly difficult to lay down any one line of treatment which might be of benefit to anything but the minority of cases. The extension of the term had already—as had been the case with regard to the term "general paralysis"—led to much confusion of ideas with regard to diagnosis and treatment. As a small contribution to Dr. Risien Russell's valuable and instructive paper he would refer to neurasthenia merely from a mechanical and nutritional point of view. Assuming that the more immediate cause of the neurasthenic syndromes is alteration in nutrition—and therefore function—of the cortical cells, it might be of some value fully to consider the conditions on which adequate nutrition and exercise of function were dependent. It should be recognised that the cranium and its contents were dependent upon the blood for its nutrition and repair, and that the processes of nutrition and repair were dependent not only upon an adequate mechanism of arterial supply, but also upon an adequate mechanism of venous drainage. The cranium and the pelvis held a somewhat similar relationship to the general circulation, and their contents were dependent respectively on similar conditions of arterial supply and venous drainage. That being the case, and recognising the close similarity between the two departments, it became evident how, under certain mechanical defects in the circulation, a double series of phenomena became manifest. It was an old observation that congestion of the pelvic contents is apt to be simulated in the brain, as evidenced by the nervous and mental symptoms associated with constipation. The comparison could be carried still further so as to include, on the one hand, the numerous troubles arising from congestion of the various pelvic viscera, and, on the other hand, the almost innumerable varieties of symptoms arising from delay of the venous return not only from the various orifices of the skull, but also from the cerebral convolutions themselves. Such conditions as hæmorrhoids, which were extrapelvic in site, were simulated by the various conditions of extracranial congestion occurring at the orifices of egress of the cerebral and cranial veins, either singly or in relationship to the cranial nerves and the special organs of sense. It would readily occur to all present how, under conditions of lowered blood pressure, a tendency to venous stasis might readily occur, and, viewed *from the purely mechanical standpoint, the indications for* treatment were evident. In his Croonian lectures on the Degeneration of the Neurone (1900) Mott made some extremely valuable observations in regard to the part played by venous congestion in the production of various forms of nervous and mental diseases. He there pointed out the means whereby a vicious circle becomes established by conditions which tend, on the one hand, to perpetual venous congestion in certain regions, and, on the other hand, to increased excitability of the neurones, these factors mutually interacting. It seemed to be a remarkable fact, that whereas much attention had been paid to the question of the arterial supply to the brain, the venous drainage from the various convolutions had been somewhat neglected. This was all the more remarkable in view of the close relationship between the veins and their surface of drainage from the various convolutions. When one considered the question of the vital importance of an effective drainage from the various sensory and motor regions it became difficult to avoid recognising that many of the groups of symptoms met with in neurasthenia were not only of localising value, but also formed indications as to the treatment necessary. He thought, however, that this was not the occasion further to elaborate the observations of Mott with regard to the part played by venous congestion regarded from a regional point of view, but he believed that the time was not very far distant when *many of the types of neurasthenia would come to be regarded* as being due to local conditions of a mechanical nature, and dependent upon factors which were entirely extracranial in origin. The tendency to perpetual venous congestion in certain regions, referred to by Mott, was markedly exemplified in some parts of the course of the superior longitudinal sinus and in the area drained by the great anastomotic vein of Trolard. Just as the left middle cerebral artery was the artery of greatest wear and tear, so certain veins were subjected to greater exercise of function than others, and it was to the efficient drainage from these veins that more attention might with benefit be given. Speaking generally, he might state, with some degree of truth, that oftentimes what had come to be regarded as a familial neurotic taint was merely a familial defect in the bodily mechanism, whereby individual members of the family, whilst possessing finely evolved brains, were prone to neurasthenia because their brains were but imperfectly served by the bodily mechanism. The practical indications for the treatment of such cases were very clearly defined, and he had found benefit to accrue from complete rest of the areas which were drained defectively. One general principle of treatment was to increase the force of the arterial wave by cardiac stimulation, and to favour the venous return by aiding the inspiratory venous suction by forced inspiration, *plus* passive pressure or massage, extending from the occiput downwards. Abdominal massage was also of considerable value, and more especially so when it served to stimulate intestinal peristalsis. With regard to the special senses, he would give only one example of the effects of treatment by complete rest. The temporo-sphenoidal convolutions were particularly prone to suffer from venous stasis, and in order to give them complete and absolute rest, and more especially when auditory disturbances were present, he recommended for that purpose plugging of the meatuses by suitably devised plugs of paraffin wax. By this method he had afforded relief from hallucinations of long standing. Time would not permit him to discuss the relative values of the various methods adopted to overcome or neutralise the effects of toxins generated within the body, although, in his opinion, such considerations must in most cases go hand in hand with those to which he had already so briefly alluded.

Dr. T. Grainger Stewart said that he would like to associate himself with Dr. Taylor and Dr. Hyslop in expressing his appreciation of Dr. Risien Russell's paper. He would have felt happier had Dr. Russell defined what he included under the term "neurasthenia." It was true that they all understood what was implied by the term, but it was none the less difficult to define it. Those who had attempted to do so had either made their definition so wide that it included mental disorders entirely distinct from neurasthenia, but of which neurasthenia was a symptom, or, on the other hand, had so limited it as to exclude those cases in which neurasthenia had become grafted on to some distinct physical disorder. The most limited definition was that which had described neurasthenia as a primary fatigue *neurosis, and if this were accepted it would of necessity* imply that in all cases neurasthenia was an acquired neurosis. Personally, he preferred to use the term neurasthenia to denote a mental and physical state characterised by symptoms, some objective, others subjective, arising in association with many different conditions, mental and physical, but independent of any recognised lesion of the nervous system It was not, he thought, justifiable in the present state of their knowledge to consider neurasthenia as a disease—the different ways in which it might originate, the variations in its manifestations, and the totally different methods of treatment which might result in its cure all pointed to its being a state of mind and body rather than a definite disease In treating neurasthenia, therefore, they could recognise it as a condition, not as a disease—a condition which might develop in association with grave mental or physical disease or with minor or functional disturbances in the mental or physical health of the patient He did not consider that it could ever be held to be purely physical and rarely, if ever, purely mental, but in order to classify the types of neurasthenia they were obliged to fall back upon what, as far as could be determined, was the primary cause in each case This might only be discovered after the most prolonged and careful examination, and such examination was necessary, not only to find out the cause of the neurasthenia, but even more to give the patient that confidence in his medical attendant without which all treatment might prove unavailing Investigation would reveal cases which arose from (1) physical disease, exhaustion, or functional disorder, (2) mental disorder or fatigue associated with anxiety or worry, and (3) trauma with or without evidence of physical injury Although neurasthenia might originate in physical or mental disease, or exhaustion, or from trauma, it was never complete until an element of doubt or apprehension became added to the original symptoms The patient who had some physical disorder might suffer from exhaustion or fatigue and from loss of brain power without being neurasthenic Similarly, in cases of overwork the patient was conscious that he could not work so well as formerly, that work was more difficult, and he might experience a sense of fulness or pressure in the head and yet not suffer from neurasthenia In traumatic cases hysterical symptoms might be present immediately after the injury, but neurasthenia rarely developed within from three to six weeks In all these instances the neurasthenia arose when the element of doubt began to fix itself in the patient's mind, fear that he might not recover his health, that his mind was giving way Such apprehensions might at first be almost unconscious, but became more insistent, and as a rule the patient kept them to himself until obliged to seek relief by confiding in his medical attendant or his friends In order to render treatment efficacious it would not suffice merely to cure or remedy the physical condition, in addition to that, the patient must be made to understand that the symptoms he complained of were due directly or indirectly to some definite cause, and that with

mination had been as complete as even the patient desired The medical practitioner had to deal with neurasthenia in its early stages often at a time when it was impossible to tell whether the symptoms were indications of some grave disorder or not In such instances he might not in his own mind have decided as to the nature of the case, and few people possessed the gift of dissembling their doubts from an anxious patient For this reason it seemed to the speaker that the specialist had an advantage over the general practitioner in treating such cases He came into the case at a time when the diagnosis might be quite simple, he had the benefit of the practitioner's experience and knowledge of the mental and physical state of the patient, and had the opportunity of making a prolonged and careful examination, and, finally, of expressing an opinion which the patient was more or less prepared to accept with confidence It would be superfluous to attempt to add anything to the excellent and comprehensive summary which Dr Risien Russell had given them as to the indications for the various forms of treatment to be adopted in different cases, but whatever method might be adopted he felt sure that the secret of success lay chiefly in gaining the confidence of the patient and in disclosing to him what was the actual cause of the symptoms in his special case

Mr **DONALD J ARMOUR** said that his object in intervening in the discussion on the treatment of neurasthenia was to draw attention to, and to lay stress upon, the necessity for a fuller and more rigid treatment in the early stages of those surgical conditions which, when not so treated, were as a late result, such a prolific cause of neurasthenia And on this account his remarks strictly speaking, had more to do with the prophylactic treatment than with treatment proper In his experience there was a widespread lack of appreciation amongst medical men of the necessity of treating head injuries, especially those apparently slight in extent, rigidly and for a sufficient length of time from the occurrence of the accident, if the patient was to be prevented from developing later into a neurasthenic Indeed, it would be obvious that the milder forms of head injury might in the end have graver results than the severe cases, inasmuch as the latter would, by the very nature of their grave symptoms demand and obtain a more rigidly enforced treatment from the very beginning And it was the milder forms, especially if unconsciousness had been completely absent or only transient which owing to the slightness of the symptoms were either treated for too short a time or even escaped treatment altogether In such cases the subsequent development of neurasthenia was undoubtedly due either to neglect of all treatment or more often to the failure to continue proper treatment long enough Too much stress could not be laid upon the necessity for immediate and continued treatment in this class of case if complete recovery was to be obtained Incomplete recovery sooner or later spelt neurasthenia, and a neurasthenia of a most chronic and intractable type It was no part of this discussion to enter in detail into the treatment of such injuries His object would have been obtained if he had impressed upon his hearers how important it was to recognise that every case of head injury, however slight, if insufficiently treated, became certainly a case of neurasthenia before a year was out

Dr **LEONARD G GUTHRIE** spoke of neurasthenia in early life He believed the condition was far more frequently innate than acquired The term neurasthenia implied not only readily induced exhaustion, but also supersensitiveness to stimuli and excessive reactions thereto Mental, emotional, and even physical development depended upon stimuli derived from the external world and conveyed through the organs of sight, hearing, taste, smell, and touch to our brains, and also to a less extent upon stimuli originating in our internal selves An individual born bereft of all capacity to appreciate and react to stimuli would be but an inert mass of protoplasm All individuals varied in respect to this capacity, and the neurasthenic varied in the direction of excess The neurasthenic child showed intolerance of sights, sounds, tastes, and smells which the normal child endured with equanimity

ing simple ailments Hyperæsthesia was shown by cutaneous irritability, by the ease with which emotions were aroused, and by an excess of "feeling tone," pleasurable or otherwise, induced by 'negative stimuli" In all cases hyperæsthesia and excessive reactions to stimuli led to fatigue and prostration Neurasthenia had no known pathology, but probably depended upon cortico thalamic derangement, for it had been shown that lesions which cut off the thalamus from cortical control were attended by emotional hyperæsthesia and excess of "feeling tone" on the affected side The rôle of the sympathetic was important, for the experience of emotions was entirely dependent upon its action, and hardly any symptoms of neurasthenia and hysteria were unassociated with sympathetic disturbance In regard to treatment hypersensitiveness could be mitigated, though it could not be annihilated There was a difference between keeping a neurotic child in cotton wool and allowing him unlimited opportunities of exhausting himself mentally and physically by expenditure of energy One was usually consulted on account of the neurasthenia itself and not on account of the excitability and irritability of temperament which gave rise to exhaustion Rest for mind and body was essential, but in order to secure it tact and ingenuity were required on the part of the physician and the patient's relatives

Dr **MAURICE B WRIGHT** said that his own contribution towards this discussion would be a very brief consideration of the mental factor in cases of neurasthenia and the possibility of the alleviation of the condition by any method of psychotherapy. There could be no question that, running parallel to the general functional asthenia, there was evidence in almost every case of a disturbance of the higher psychical centres, disorders of memory, of attention, of concentration, and of will, and, most important of all, a marked emotional disturbance or of the affective states—a diminution of the power of feeling pleasure in any direction, an increase in the range and depth of the depressing emotions. After everything had been done from the physical side to restore a patient to health, there was often a residuum of mental symptoms which could only be dealt with by definite psychotherapeutic procedures. True neurasthenia was hardly ever suggestible to any great extent, but, apart from suggestion in the passive or hypnoidal state, he believed much could be done by steady, methodical mental re-education, education of attentive control and of interest, and perhaps, above all, by a steady painstaking explanation of the importance of such factors as expectancy and disordered attention to bodily functions and sensations, in the production of the various sensations and physical and mental disabilities. The various phobias and obsessions were often superadded to the neurasthenic syndromes, and although he did not personally believe that they had the same etiology as pure neurasthenia, they very often complicated the disease and rendered treatment more difficult. It was in the treatment of phobias and obsessions that psychotherapy in its widest sense more particularly applied. Suggestion in the hypnotic or hypnoidal state might, he thought, be employed with success in many cases, but in addition there should be a careful, painstaking endeavour to find out the causes in the psychological history of the patient which had tended to produce the phobia or obsession. He could not agree with Freud that it was necessary to go back to infantile sexual trends, but be believed firmly that there had been some *vera causa* for every phobia and obsession in the past mental experience of the patient, a *vera causa* which, if only we could demonstrate it to the patient, would enable him to free himself of the mental pain and distress of obsessional ideas. The anxiety states must, he thought, be differentiated from neurasthenia, although they might complicate the disease. In the consideration of this condition he agreed entirely with the Freudian school. In all true anxiety neuroses that he had seen the etiological factor had been apparently some abnormality of sexual life. Suggestion might be of service in these cases, but he thought the main line of attack should be in endeavouring to get the patient to return to a healthy *vita sexualis*.

Mr. A. G. BUCHANAN said that he had been extremely interested in Dr. Risien Russell's illuminating paper. He had had the privilege of treating a good many cases of neurasthenia in conjunction with Dr. Russell; he was happy to say with very satisfactory results. Neurasthenia was a psychical disorder, often with physical symptoms; it was essential to understand what the immediate psychical defect was if we were to cure the disease, and then to deal with it by every means in our power. First and foremost, it must be our endeavour to gain the patient's complete confidence, otherwise the task would be hopeless. The psychic treatment consisted in the following four methods of procedure.

1. *The method of persuasion.*—Persuading the patient that he was curable, that his disorder was purely functional, that there was a time ahead when he would be completely well again, that he must have faith and patience, and not be discouraged at the relapses which mark the course of the disease.

2. *The method of re education.*—Teaching the patient to control his mental activities. To accomplish this various mental exercises were employed.

3 *The method of suggestion in the hypnoidal or subwaking state.*—Dr Boris Sidis, who first described this method, said: "The attention must be fixed, but it must be distracted from the suggestion; there must be monotony of impression, limitation of voluntary movements, and consequently a limitation of the field of consciousness." Dr. Sidis ascribed a special therapeutic value to the hypnoidal state apart from the suggestibility which characterises it. "It depended on the fact that through the hypnoidal state access is gained to the stores of potential subconscious reserve energy, which by a liberation of energy bring about a reassociation and synthesis of the dissociated mental systems underlying the symptoms of the disease, and the therapeutic value of the hypnoidal state consisted in the liberation of reserve energy requisite for the synthesis of the dissociated systems."

The theory of reserve energy was of the utmost importance to abnormal psychology; it was first advanced by Dr. Sidis and Professor James, and it seemed to form the very foundation of psychopathology and psychotherapy. Far less energy was utilised by the individual than there was actually at his disposal. The energy that was in use might be regarded as the kinetic energy, while the energy stored away was the potential reserve energy. Sir George Savage said that neurasthenia depended to a great extent, if not entirely, on faulty association of ideas. The reserve energy released during the hypnoidal state would assist in the restoration of normal associations.

4. *The method of psycho-analysis*, as described by Professor Freud.—When the psychic tension was due to a submerged factor this method was of great value to bring that factor to light.

According to Professor Münsterberg, neurasthenia is certainly the classical ground for the psychotherapist. Concerning the patient's headache, insomnia, his capricious worries and absurd phobias, his obsessions and fixed ideas, all might yield to the appeal to the subconscious. Undoubtedly these cases were amongst the most difficult one had to treat, owing most probably to their lack of concentration and their powerful auto-suggestions. A noticeable feature was their varying susceptibility from day to day—in some cases even from hour to hour. He ventured to say that in combining psychic with physical methods we should obtain the most rapid and permanent results possible in a large number of cases.

The discussion was adjourned until Nov. 17th, when it was continued by Dr. JAMES MENNELL, Dr. CLAUD FOTHERGILL, Dr. S. A. K. WILSON, Dr. W. P. S. BRANSON, Mr. ERNEST CLARKE, Dr. G. E. SHUTTLEWORTH, Dr. CURTIS WEBB, and Sir DAVID FERRIER, the President. The report of the adjourned meeting will be published next week.

HARVEIAN SOCIETY OF LONDON.

Fractures about the Elbow-joint.—Peculiar Characteristics of Tuberculous Sputa.

A MEETING of this society was held on Nov. 6th, Dr. LEONARD G. GUTHRIE being in the chair.

Mr. ERIC G. GAUNTLETT read a paper on Fractures about the Elbow-joint, dealing chiefly with those of the lower end of the humerus. He pointed out the difficulties in diagnosis between the various conditions and the modern views as to the treatment of such fractures. He divided fractures around the elbow-joint into those affecting the lower end of the humerus, of which the transverse supracondyloid, the T or Y shaped intercondyloid, fracture of either condyle, and separation of the epiphysis, were the most important, and those affecting the radius or ulna, amongst which fractures of the olecranon, coronoid, and the head of the radius were commonest. Accurate diagnosis being of the greatest importance, in children particularly, general anæsthesia was often necessary, while skiagraphy, although useful in cases with obvious displacement, might be misleading in less serious injuries. Diagnosis depended on an accurate comparison of the two limbs, with special regard to the position of bony points, measurements, and abnormal mobility The different varieties of these fractures were then discussed in detail, and the conclusion was reached that all these fractures, with the exception of those affecting the olecranon, were best treated by full flexion. Operation interference was seldom called for, except in the case of those T-shaped fractures involving the joint. Massage should be commenced early and passive movement at the end of the first week, but it should be gentle so as to avoid all unnecessary movements of the fragments. Finally, all doubtful injuries to the elbow in children suggesting an injury to the epiphysis were best treated in this manner, although the physical signs might be indefinite. The paper was illustrated with an excellent series of X ray photographs of the injuries before and after treatment.

Dr. PERCY B. RIDGE read a paper on the Peculiar

Characteristics of Tuberculous Sputa, based on research work carried out in upwards of 2000 cases, in which the albumin content and the cytological aspect had been obtained in each case From this investigation he was able to draw conclusions helpful both in the diagnosis and prognosis of tuberculous lesions of the lung

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Valedictory Address —The Suprarenal Glands

THE first meeting of the ninety third session of this society was held on Nov 5th

The retiring President, Mr J M Cotterill, delivered a valedictory address He alluded to the number of papers communicated to the society, to the four interesting discussions on vaccine therapy, treatment of simple fractures, malingering, and intestinal toxæmia which had taken place, and to the generally satisfactory state of affairs which the society presented *He also spoke in feeling* terms of those members who had died during the preceding two sessions

Dr A Ninian Bruce gave a communication on the *Suprarenal Glands, their Comparative Anatomy, Physiology,* Pathology, and Relation to Clinical Medicine, He said that during the past few years enormous strides had been made *in many departments of experimental medicine* It had shown that the word "parasyphilis" had no meaning, and that general paralysis was merely another name for syphilitic encephalitis More recently they had learnt of the discovery of the micro organism of poliomyelitis and of hydrophobia but amongst all these subjects there was none which had a greater interest in clinical medicine than that of the internal secreting glands Until now the true significance and importance of these glands had been recognised by few It was known that in certain diseases they were involved, but what the nature of this change was, how it had arisen and how the clinical symptoms were related to it was only vaguely understood Much that had been written about the suprarenal glands was visionary and without real value They required a sifting of the good from that which was hypothetical and not yet proved to be good The great factor in regard to the internal secreting glands was that until now they had rather regarded all the important functions as owing their primary origin to the *nervous system* Now it was found that these functions were really chemical in their origin that the nervous system merely controlled them that *the initial force behind them was a chemical one*, and that these chemical substances were formed in the internal secreting glands, which thus assumed an importance that had not previously been sufficiently recognised Dr Bruce said that he and others had been working upon the suprarenal glands for four years, and that their knowledge was beginning to take a definite shape After narrating the anatomical details and alluding to the work of various observers he said that the two fundamental tissues (medulla and cortex) were present in all vertebrates, and therefore were component parts of the vertebrate body The full significance of these two different portions was brought out when it was discovered that these two parts were completely separated in the fish and formed separate organs In the fish between the two kidneys two well defined organs were found, which apparently took the place of the suprarenal bodies On section they consisted of one kind of tissue only—viz, columnar cells containing fat (i e, comparable to the cortex only of man) These were known as the "interrenal bodies" and *contained no* medullary tissue The medullary portion was represented by a number of small paired bodies lying along each side of the vertebral column and in close relation to the sympathetic ganglia These were known as adrenal bodies In the amphibia (frog) the suprarenal glands were in the form of golden yellow streaks upon the surface of the kidney and consisted of columns of cells lying side by side some of which were cortical and some medullary In birds these two layers interlaced with one another The fact that the cortex and the medulla represented two distinct organs was still further emphasised by their development The medulla was derived from ectoderm the cortex from mesoderm The latter was developed from the *same cells which gave* rise to the reproductive organs, with which they seemed to have some relationship, as cortical tumours had been found in certain malformations of the *reproductive organs* The structure of the medulla was so obviously secretory that the conclusion must be arrived at that these cells gave rise to a secretion The only difficulty was that there was no duct present Later it was pointed out that, though the suprarenal glands were such small organs, they were extraordinarily well supplied with blood vessels, no less than three different arteries and still later it was suggested by Professor (now Sir) E A Schafer that the secretion found its way into the circulation by passing into the blood directly This suggestion had since been abundantly proved, the secretory cells actually lying close to the walls of the blood vessels into which the secretion could easily pass The effect of this secretion was tried on animals by making extracts of the crushed gland in normal saline fluid If a small quantity were injected into the vein of a rabbit or cat it was found that there was an immediate and sudden rise in the blood pressure The maximum pressure was reached in a few seconds and the return to normal was almost equally rapid The rise in pressure varied with the amount of adrenalin injected to a most remarkable degree So exact was this reaction that they were able to measure the actual amount of *adrenalin present in a solution* or *in a gland by* this method This rise in pressure was due to constriction of the blood vessels, adrenalin did not act upon either the *nerve cell or the* nerve fibre because *if the fibre be cut* and allowed to degenerate the action of adrenalin was unimpaired If one paralysed the nerve ending by various *drugs* this completely prevented the action The action, therefore, was upon the myoneural or neuromuscular junction Repeated injections of adrenalin always elicited similar and equal rises of pressure This sudden rise and fall was a purely artificial result, and the great rapidity with which the reaction passed off showed how rapidly adrenalin was used up The reaction might be greatly prolonged by injecting the solution intramuscularly or intraspinously, when the absorption was slower and its effects more gradual If the solution of adrenalin were very weak and were allowed to pass in very slowly a slight rise in pressure was obtained, which persisted and was constant as long as the weak solution was flowing in If the rate of inflow were slightly increased, the blood pressure rose in correspondence and fell if the rate were reduced The degree of contraction —i e, the "tone" of the vessels—was proportional to the amount of adrenalin *which passed into the circulation* The cells of the medullary part of the gland were typically secretory and were set vertically around the vascular *spaces* which *appeared* to be not true capillaries, but sinusoidal The secretion was manufactured, not as granules, but in a fluid form and passed directly into the blood stream, affecting all the sympathetic myoneural junctions, whether in the vessels or elsewhere The peculiar function of its action was its stimulation of plain muscle and gland cells which were, or had been in functional union with sympathetic nerve fibres In all vertebrates the reaction of any plain muscle to adrenalin was similar to that following excitation of the sympathetic visceral nerves supplying that muscle In default of sympathetic innervation plain muscle was indifferent to adrenalin A positive reaction to adrenalin was a proof of the existence and nature of sympathetic *nerves in any organ* Sympathetic nerve cells with their fibres and the contractile muscle fibres themselves were not stimulated by adrenalin Adrenalin would *cause relaxation* of the intestine and contraction of the sphincters, or *vice versa*, according to the condition at the time in the same way as nervous impulses did *Addison's disease* was characterised by an exaggeration of the normal pigmentation of the skin, extreme prostration, muscular and cardio-vascular asthenia, and a liability to syncope nausea and vomiting After alluding to the work of Addison and Wilks Dr Bruce said that it was not until the investigations of Schäfer and Oliver and the recognition of the internal secretions that any exact knowledge of the nature of the lesion became known *The more chronic form* of the disease was rare, the average age was 31 years It had not been proved to be more frequent in tuberculous families or to be *hereditary* It was most often associated with tuberculous disease of the suprarenal capsules, which might exist alone or along with tuberculosis of other organs Addison himself took a broad view of the relation of symptoms to the lesions, and declared that any morbid lesion of the suprarenal glands might produce the same result, and that these depended not so much on the nature of the organic change as upon the interruption of some special function of these organs. Sir Samuel Wilks thought that only tuberculous lesions could cause the disease. It was now known that any lesion of these glands might cause this condition. The clinical recognition of Addison's disease depended mostly on the presence of pigmentation. Generally speaking, it was not of itself apart from constitutional symptoms sufficient to warrant a positive diagnosis. The average duration of life was 18 months. Without pigmentation the disease was difficult to diagnose. Dr. Bruce described some acute cases —e.g., one which died 11 days after the onset of acute symptoms; another after only two and a half days. Certain cases did not really differ from what occurred in diphtheritic toxæmia. They were both acute and resulted from suprarenal inadequacy. Any acute infectious disease might exhaust these glands. Suprarenal insufficiency must be regarded as a factor of the greatest importance in disease and usually complicated most diseases. The form called Addison's disease was merely the most chronic form of this condition, which formed a long series from the sudden death in diphtheria which has so puzzled investigators to understand. In many infective conditions sudden death was liable to occur often when the patient was convalescent. The disease had produced a certain amount of suprarenal insufficiency, and the patient had been allowed to exert himself before these glands had completely recovered their functional activity. The extra exertion had completely exhausted them and so led to cardio-vascular paresis. This insufficiency might be slow and chronic, and was usually fatal, as might happen in gradual destruction of the suprarenal tissue. Other diseases such as typhoid did not seem to exhaust these glands so rapidly as diphtheria, though they did throw an enormous strain on these glands which might account for the slow convalescence. Dr. Bruce had found records of cases of true Addison's disease which had followed a long convalescence after typhoid, and in which no tuberculous lesions were found in these glands. This might also explain the extraordinary feeling of uselessness which so often followed on influenza. This disease was often associated with cardiac changes; dilatation of the ventricle was by no means rare, and any strain thrown upon the suprarenal glands at this time was surely the utmost folly. This point was of great interest to the surgeon. A long-continued operation might produce complete exhaustion of an already partially exhausted gland. The removal of part of the thyroid gland for exophthalmic goitre was sometimes followed by sudden death. Now, disease of one internal secreting gland might lead to involvement of others. Excessive thyroid secretion did not lower blood pressure, and yet cases of this disease were found in which there were low blood pressure and pigmentation. These were cases in which the suprarenal glands were becoming affected through probably nervous exhaustion. In such cases calling for operation the condition of the suprarenal glands must be most carefully examined. This held also for many other operative measures. Cases of Addison's disease had been found with normal suprarenal glands after death, and on the other hand the glands had been found diseased with no symptoms of Addison's disease during life. The glands might be completely exhausted of adrenalin and yet no gross lesions be present. Again, though diseased, the remaining uninjured portions of the glands, together with the accessory chromaffin tissue, had been able to secrete a sufficient supply. In summing up Dr. Bruce said that there were present in the tissues numerous small bodies of a glandular structure. In many cases these were so small that they might almost be ignored, but these small bodies elaborated internal secretions which passed into the blood and were of such great importance that if their continued secretion were interrupted even for a short time death resulted. These bodies, like all other glandular and other tissues, were liable to become exhausted if any prolonged strain were put upon them, and their temporary exhaustion might lead to grave symptoms, and even sudden death.

Dr. **Byrom Bramwell** said that in 1875 he had published in The Lancet a case of Addison's disease with only one capsule affected and with pigmentation. Such were very rare cases. Two French observers had said that the lesion was in the abdominal sympathetic system and not in the suprarenal glands at all. He thought that this might be true and would explain some of the difficult cases. He had likened the pigmentation to the eruption in fevers, and he had seen several cases without, or at least with very little, pigmentation. He had always laid great stress on asthenia as a diagnostic sign, and had recorded several cases with no tuberculous lesions. He was much dissatisfied with the adrenalin treatment of Addison's disease. The most successful cases were those in which there had been no tuberculosis of the adrenal glands. He thought that the sudden death in diphtheria and other diseases as being due to suprarenal exhaustion was merely a theory and not a proved fact. In cardiac failure in diphtheria there was often disease in the heart muscle or in the nerves going to the heart, and it rather strained the case to bring in the question of adrenalin insufficiency, and he also thought that cases of sudden death after operation for exophthalmic goitre were only very doubtfully due to suprarenal failing.

Professor **F. M. Caird** asked how could it be decided that a patient was suffering from adrenalin insufficiency, more especially if after death there was no disease present. In two cases he had employed repeated injections of adrenalin in normal saline fluid, and thought their lives were prolonged.

Dr. **Claude B. Ker** said that if heart failure in diphtheria could be prevented from 15 to 20 lives could be saved every year in his hospital. He had not been fortunate in the giving of adrenalin to his patients.

Dr. **W. G. Aitchison Robertson** thought that a continuous effect of adrenalin could be obtained by feeding patients with the glands as was formerly done in thyroid treatment.

Dr. **D. Berry Hart** thought that suprarenal graft might be employed.

Glasgow Medico-Chirurgical Society.—A meeting of this society was held on Nov. 7th, Mr. A. Ernest Maylard, the President, being in the chair, when a lecture, with lantern demonstration, on the Prevention of Malaria, was delivered by Dr. Malcolm Watson, chief medical officer, Estates Hospitals Association, Klang, and member of the Malaria Advisory Board, Federated Malay States. Dr. Watson said that the miasmic and telluric theories of malaria had paralysed all efforts to eradicate the disease. It was Ross's discovery of the mosquito-carrier which pointed the way to the prevention of malaria. Successful anti-malarial work was first carried out early in 1901 in Klang and Port Swettenham in the Federated Malay States by the adoption, on his (Dr. Watson's) advice, of a thorough drainage scheme, which resulted in the practical abolition of malaria in these two towns and in a reduction in the number of deaths by about 400 per annum. In the same year Ross and Logan Taylor engaged in successful preventive work at Freetown, and in 1902 Ross inaugurated measures in Ismailia which brought about the disappearance of the disease there In 1903 the publication of Dr. Watson's observations on malaria in rural districts led the Government to undertake the Kapar drainage scheme, embracing some 24,000 acres. There, by felling the jungle, draining by ordinary open drains the pools in which the anopheles umbrosus bred, and by cultivation, complete control was obtained over malaria on the low coastal land, which, on account of its stiff clay soil and high ground water, was supposed to be the stronghold of the disease. Among the hills, however, in spite of good houses on dry elevated sites, with pure water-supply and excellent sanitation, malaria of the most malignant kind persisted. Having found that this was due to the presence of the anopheles maculatus, which bred only in hill streams, Dr. Watson adopted the measure of carrying the streams underground in pipes for a certain distance, about half a mile, round dwelling places in hill land. This was done with complete success where the full distance was piped, and with marked improvement where a more restricted area only was drained. On the same lines the Government carried out an extensive subsoil drainage scheme in the federal capital, with the result that general malarial infection disappeared within the drained area. It was to the presence of this hill stream breeding mosquito that malaria was due in the hilly parts of Hong-Kong and in hilly districts in India, while to its absence from the hill streams of Italy, Sumatra, and the Philippines was to be attributed the freedom from malaria which those regions enjoyed In Japan the only anopheles mosquito found bred in rice swamps and carried only the two benign forms of malaria During a recent visit to Panama Dr Watson went to see most of the stations of the American Sanitary Department While the Americans strongly advocated drainage, the engineering works constantly interfered with the drains Mosquito proof houses were used by the Americans and by some of the Spaniards, but the majority of the inhabitants were not protected Quinine was practically not used as a prophylactic The system of oiling however, was perfect, the whole area for about half a mile round all dwellings being oiled once a week so thoroughly that every mosquito was killed The two chief malaria carrying mosquitoes, anopheles albimanus and anopheles argyrotarsis, were pool and not hill stream breeders On a total area of 53 square miles thus treated in jungle under the worst possible conditions the Americans had built up and maintained a labour force of over 50,000 men, whose death rate compared favourably with that of any corresponding population even in temperate zones In British Guiana the inhabited portion of the country was a fringe along the coast and up the rivers, much of it having been reclaimed from the sea Drainage, with the drain outlets protected by tide gates, and agriculture had brought about the disappearance of both anopheles albimanus and anopheles argyrotarsis, and had produced a fall in the incidence of malaria equal to that in Panama Populations even lived in health on the edge of rice swamps, the mosquitoes being eliminated by a proper control of the irrigation The freedom from malaria which distinguished Barbados among the West Indian islands had been attributed to the presence of the small minnows called "millions," which were supposed to eat the mosquito larvæ, but it was really due to the circumstance that the island was composed of a coral chalk so pervious to water that there were no surface pools, and consequently no mosquitoes could exist

Manchester Medical Society —A meeting of this society was held on Nov 5th, Dr O. C Heywood being in the chair —Dr Donald E Core read a paper on Some Clinical Types of Early Mitral Stenosis Cases of latent mitral stenosis were described from the standpoint of prognosis and treatment, the possibility of auricular fibrillation and pulmonary infarction making their appearance without any subjective symptoms of hyposystole having been noticed was referred to Groups of mitral stenosis in which the dominant symptoms were respectively those of wasting and those of functional nervous manifestations were also described Emphasis was laid upon the importance of the double second sound in the diagnosis and prognosis of mitral stenosis —Mr J Morley read a paper on Spinal Anæsthesia, which the lecturer considered should receive renewed attention in the light of Crile's views on shockless operations Spinal anæsthesia afforded the only sure way of cutting off all traumatic afferent stimuli from the lower half of the body during operation, and so avoiding all tendency to nerve shock In an experience of 66 cases operated upon under stovaine and glucose at the Ancoats Hospital [illegible] plications that might occur were discussed with their probable cause and prophylaxis The method was advocated as suitable for routine use in all operations on the lower limbs, for hæmorrhoids and other perineal conditions for operations on the bladder and urethra, and for inguinal and femoral hernia For operations in the pelvis there was the drawback that the Trendelenburg position could not be used The method was excellent for appendicectomy and exploration of the lower abdomen, but it was not advised for gastric operations necessitating the use of clamps In acute peritonitis and acute intestinal obstruction it had the advantage over general anæsthesia in that there was less tendency to post operative intestinal paralysis In 19 operations on children the method was found satisfactory Patients who had experienced operations under both general and spinal anæsthesia usually preferred the latter

Incorporated Society of Medical Officers of Health —In his presidential address on Oct 17th Dr A K. Chalmers the newly elected President dealt with the Natural History of Pulmonary Tuberculosis in Scotland He said that only 10 of its 33 counties showed rates below the mean of the country as a whole, and the densest shadows by no means covered the most thickly populated industrial counties Although an interval of 69 per cent separated the highest from the lowest rate there was a remarkable flattening in more than half of its counties No fewer than 17 had rates between 10 and 13 per 10 000, while the lowest rate exceeded 5 and the highest was 18 Pulmonary tuberculosis in Scotch towns from the 'seventies' onwards showed increasing freedom from its more fatal forms and raised the question whether the tolerance which was being acquired was likely to prove more lasting in character The experience of four Scottish counties had a bearing on this Each had now a higher death rate from all causes than in the 1860-2 period But in three, Shetland Orkney, and Caithness the death rate from phthisis had decreased by 17 25, and 30 per cent in the past 50 years while the death rate from other causes had increased by 3 9, and 8 per cent In Sutherland, while the phthisis rate had increased by 4 per cent, the death rate from other causes had increased by 17 per cent Round the Census period of 1871 the phthisis death rate reached 2675 per million, and the county of Selkirk, which had been developing its manufactures at Galashiels in the midst of agricultural surroundings doubled its death rate from phthisis in 10 years, and from being third lowest in 1861, with a rate of 1534 per million became second highest ten years later with a rate of 3380 The rise in the Selkirk rate was quite phenomenal, no increase elsewhere approached it, Lanarkshire alone with a rate of 3888, exceeded it, but in 1860 it had been 3589

Manchester Pathological Society —A meeting of this society was held on Nov 12th, Dr A Brown the President being in the chair —The President reported a case of Thrombosis of the Inferior Mesenteric Artery in a middle-aged man The clinical picture was of severe colitis The necropsy revealed extensive atheromatous change of the abdominal aorta Thrombosis was complete in this vessel from the renal arteries to its bifurcation The mucous membrane of the descending colon was black and gangrenous —Professor R B Wild commented —Dr E M Brockbank demonstrated some slides of red blood cells illustrating what he termed "ballooning" and "visible hæmolysis," &c From these he claimed to prove that the erythrocyte was a bladder whose outer membrane was of two layers The hæmoglobin was held in solution inside the cell by means of chemical union with an unknown body Inside each red cell also were the "platelets"—Professor A E Boycott gave a short address on the subject of Hypertrophy and Reserve Force In explanation of the latter he adduced the theory of fractional activity of the elements of organs—e g, all nerve and muscle fibres in a nerve or muscle not responding to every stimulus —This was freely discussed by Professor Wild, Dr W E Fothergill Dr A E Sellers, Dr C Powell White, and Dr J J Graham Brown

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German Congress for Internal Medicine —The Thirty first German Congress for Internal Medicine will take place in Wiesbaden from April 20th to 23rd 1914 under the presidency of Professor Dr von Romberg (Munich) The principal papers to be presented are on Monday, April 20th Nature and Treatment of Sleeplessness, the reporters of which subject are Herren Gaupp (Tubingen) [illegible] and Faust (Wurzburg) On the [illegible] ril 22nd at 10 A M, by the desire [illegible] rner (Heidelberg) will present a comprehensive address upon the radiation treatment of new growths of the internal organs, and on the fourth day, Thursday April 23rd, at 11 A M Herr Schottmüller (Hamburg) will deliver an address on the Treatment of Sepsis Announcements of papers proposed to be read should be addressed to Herr Professor von Romberg Richard Wagner Strasse 2 Munich Addresses of which the essential details have already been published will not be accepted Papers with summary of contents must be sent in by March 22nd, 1914 An exhibition of preparations apparatus and instruments in so far as they are of interest for internal medicine, will be held Communications with respect thereto should be addressed to the Secretary Dr Emil Pfeiffer Parkstrasse, 13 Wiesbaden In order to secure suitable accommodation for the visitors a committee will be formed to make the necessary arrangements

Reviews and Notices of Books.

A History of University Reform from 1800 A.D. to the Present Time, with Suggestions towards a Complete Scheme for the University of Cambridge.

By A. I. Tillyard, M.A., St. John's College. Cambridge: W. Heffer and Sons, Limited. 1913. Price 10*s.* net.

It is now very generally considered that although the Universities of Oxford and Cambridge can never become great clinical schools, - for the clinical work and training of their medical undergraduates must be carried on in large populous centres, the preliminary literary and scientific training of the medical student will gradually fall, as it has done in the older universities, more and more into the hands of institutions of university rank. Within the last 25 years there have, of course, been very great growth and development in the medical schools of both Universities, accompanied by a gradual recognition by them of the importance of the early scientific training of the medical student. It is recognised, too, that a good classical, mathematical, philosophical, or literary training is of inestimable value to the medical man, and, when reinforced by what is spoken of as a scientific training, equips a man for the study of medicine as can no other curriculum. These studies can never take the place of clinical instruction, but they not only prepare a man to undertake his clinical studies with the best prospect of ultimate success, but assist him to continue to be a student during the rest of his professional career. A thoroughly trained man has acquired knowledge and methods which enable him to develop initiative, they give him the confidence that leads to prompt and effective action, and anything that will improve our university system must concern the profession of medicine in the persons of those engaged on its study and practice.

Our universities with their honourable history seem to have failed, from time to time, to keep pace with the demands and ideals of those most keenly interested in their welfare. Sometimes reforms, often the best of them, have come from within, but the conservatism naturally associated with such ancient and respectable institutions has, at other times, repressed the reforming spirits of the schools until they have been liberated from their bondage by external forces, and on numerous occasions interference from without has been necessary to break down the walls of tradition and prejudice.

In recent years a leaven has been working in both Oxford and Cambridge, a leaven so active that it has brought about a good deal of disturbance. But although some good work has been effected, the reformers, perhaps through want of sustained enthusiasm, from obstruction, or from want of knowledge, have as yet been able to advance but a few steps along the path of improvement and reconstruction. To meet this latter defect the author of this work, an *alumnus* of the University of Cambridge, has set himself to examine the various sources of information concerning both Oxford and Cambridge, and has given in concise and readable form the history of these two universities and of the many controversies that have arisen during the process of their evolution, producing a work so interesting and so complete that it may be commended to all who take an interest in these ancient foundations. He has examined with great thoroughness the earlier records of the universities and colleges. He indicates the method of growth of the colleges, which in the first instance were hostels in which were boarded the students attending the university; how as time went on the staff of the hostel came to assume tutorial functions, first in aiding the student to follow the professorial lectures, and then gradually assuming not the professorial function, but a tutorial function, displacing that of the professor, reader, or lecturer. With the development of the Natural Science Tripos and the growth of the medical school there has been a gradual reversion to earlier methods, and the college medical and science tutors have become directors of studies rather than tutors in the sense in which this term is understood in the classical and mathematical schools. Finally, in summing up, but keeping his facts and figures and his own opinions in water-tight compartments, the author suggests in a scheme of reform for the University of Cambridge the amalgamation of colleges into groups, by which economy of management, more effective instruction, keener competition, and a greater development of systematic and laboratory teaching would be obtained. The present system of prize fellowships is criticised very severely, and it is pointed out that if it is deemed expedient to help good men after they have finished their course of study this should be done systematically and according to clearly defined principles, and " two special cases are instanced in which career scholarships might be given with advantage to the community, these are the scholastic profession and medicine ...... Then again the medical course is long and expensive and it is of the highest importance to the State, especially in view of the recent legislation, that there should be a full supply of properly qualified doctors. These scholarships could be given by the University on the result of its own examinations. They are, however, a counsel of perfection as there are many more pressing claims."

It may be thought that a work of this kind must necessarily be dry reading, it contains so many facts and quotes so many figures, but on laying it down one feels that the author has, from start to finish, been able to maintain interest at a very high level, and whether, on certain matters of detail, we agree with him or not, we feel that he has given a full, comprehensive, and above all fair, account of the history of the universities and colleges and their relations, and that he has supplemented this with a suggested scheme of a practical character, though the needs for its application are not always as obvious as he believes.

Contributions to Practical Medicine.

By Sir James Sawyer, M.D. Lond., F.R.C.P. Lond., Consulting Physician to the Queen's Hospital, Birmingham. Fifth Edition. Birmingham: Cornish Bros. 1912. Pp. 410.

All the essays included in this book have previously been published in one or other of the medical journals, either in the form of clinical lectures or as separate articles, but for the purposes of this work they have been amplified and generally brought up to date. In the present edition important additions have been made, and the Lumleian lectures delivered at the Royal College of Physicians in 1908 are included.

Amongst the new essays is one entitled "Practical Summary of the Physiology, Pathology, Etiology, Varieties, and Treatment of *Insomnia*." This article appeared in "An Index of Treatment," by various writers, edited by Dr. Robert Hutchison, and forms an addendum to the first two articles in the book on the causes and treatment of insomnia. A good summary is given on the principal points connected with insomnia, the remarks on hypnotics are practical in character, and may be read with advantage.

Another article is headed Practical Summary of the Etiology, Prevention, and Treatment of Habitual Constipation. This was first published as a clinical lecture in THE LANCET of Sept. 16th, 1911. Useful advice is given as to the general management of patients suffering from habitual constipation. Three main points are insisted on: (1) that the medicinal treatment of the constipation should not be left to the patients; (2) that a drug should not be prescribed until an attempt has been made to give relief without drugs; and (3) that drugs alone should not be relied upon, but other measures should be combined with them.

The Lumleian lectures on Points of Practice in Maladies of the Heart are characterised by essentially practical observations on diagnosis, methods of examination, and treatment of diseases of the heart. An account is given of the recent advances in the histology and physiology of the heart, but constant reference is made to the manner in which these advances can be made of service in actual clinical work. In discussing the division of maladies of the heart into two great classes—organic and functional—Sir James Sawyer shows how frequently these two groups are combined. He says that he finds it a good rule in practice to speak of the heart as *disordered* when there is no lesion, as *affected* when there is a lesion but no objective complication, and as *diseased* when there are both a lesion and some objective consequence of it. The differential diagnosis between organic and functional cardiac affections is often difficult, and in these lectures this point is discussed at length.

Sir James Sawyer's essays will be found especially valuable to those engaged in general practice, for much interesting information is given and numerous suggestions are made of considerable value from a clinical point of view.

The Development of the Human Body. A Manual of Human Embryology.

By J. PLAYFAIR McMURRICH, A.M., Ph.D., LL.D., Professor of Anatomy in the University of Michigan. Fourth edition, revised and enlarged, with 285 illustrations, several coloured. London: Henry Kimpton. 1913. Pp. 495. Price 12*s.* 6*d.* net.

THE author expresses the hope that this book furnishes an accurate statement of our present knowledge of the development of the human body, and this we believe to be the case. Development is the key to the significance of the structure relations and occasional anomalies of organs and must form the foundation for a proper understanding of the facts of anatomy, human and comparative. To each chapter a short bibliography is appended.

The work is divided into two parts. Part I. deals with general development, and runs to 139 pages. It includes a short introduction on the cell and mitosis. Then follows an account of spermatozoa and spermatogenesis, the ovum, its maturation and fertilisation, segmentation and formation of the germ layers, the medullary groove, notochord, and mesodermic somites, the development of the external form of the human embryo, the yolk stalk, belly stalk, and "fœtal membranes." This part is illustrated by 80 figures, many of which are taken from well-known authors, such as Kollmann, Sobotta, Wilson, Meves, Hatschek, von Beneden, Hertwig, Bonnet, Minot, and naturally the elegant figures of His are drawn upon to illustrate the outward form of the embryo. The sources are acknowledged. A number of the illustrations are original. Throughout the text all the illustrations are remarkably well printed, clear, and not overburdened with details.

Part II. deals with organogeny. The development of the following systems is considered in sequence: integumentary, connective and osseous, muscular, circulatory and lymphatic, digestive, respiratory, uro-genital, suprarenal, and nervous. There is a very full account of the development of the organs of special sense and a short chapter on post-natal development. In this part also many of the illustrations are taken from well-known memoirs or standard text-books by such authors as Szymonowicz, Testut, Sappey, Mall, van der Stricht—and for the reconstruction of the heart, Born—Keibel, Toldt, and many others.

Altogether this is a compact, handy, reliable, well-illustrated manual, and we commend it heartily as a course of study of the development of the human body.

Abhandlungen über Salvarsan.

Gesammelt und mit einer Vorrede und Schlussbemerkungen herausgegeben von Professor PAUL EHRLICH, Wirkl. Geh. Rat, Direktor des Instituts für Experimentelle Therapie. Band III. Mit 2 Tafeln und 49 Figuren im Text. München: J. F. Lehmann. 1913. Pp. 584. Price, paper, 10 marks; bound, 12 marks.

THIS is a further instalment of the collection of articles and papers on salvarsan collected by Professor Ehrlich. The first group of papers in this volume deals with the question of the rise of temperature that may follow the injection of saline solution; then come papers on the employment of salvarsan in the army and navy, on its use to abort syphilis, on its effect on the nervous system, and on by-effects of the drug. Of great interest is the group of articles on the use of salvarsan in non-syphilitic diseases. Lastly, the results of neo-salvarsan are recorded in a series of papers, and Professor Ehrlich sums up the present state of the treatment. The book forms a storehouse of information for workers in this department of surgery.

Hygiene and Public Health.

By LOUIS C. PARKES, M.D. Lond., D.P.H., and HENRY R. KENWOOD, M.B. Edin., F.R.S. Edin. Fifth edition. With illustrations. London: H. K. Lewis. 1913. Pp. 736. Price 12*s.* 6*d.* net.

A FIFTH edition of this standard text-book has been called for within two years of the fourth, and the authors have taken the opportunity to make revisions and additions which still further increase its value as a reference volume to practitioners in all branches of public health work and to students who require a comprehensive and trustworthy manual of the subject. The revisions are well up to date, including for example, new administrative questions such as the duties now placed on medical officers of health by the Tuberculosis Regulations of the Local Government Board, the recent Tuberculosis Order of the Board of Agriculture in regard to the detection of tuberculosis in cattle, and the standards for sewage effluents proposed by the Royal Commission on Sewage Disposal in their eighth report. Important additions have been made to viewpoint of the player who has learned and played his golf on inland links. The extraordinary development of the golf cult during the past 20 years, a development which shows no signs of abating, is responsible for the evolution of the distinctive methods of inland as opposed to seaside play. The rise of such inland courses as Walton Heath, Mid-Surrey, and Sunningdale, with their hazards, fairway, and distances elaborately planned to furnish the most searching test of play, with their perfect greens laid out to imitate every kind of natural variation to be found on the best seaside courses, has created a species of game which demands possibly greater skill than ever before. Seaside and inland golf are widely differentiated games, and others besides Ray claim that the inland is the more difficult. The writer, after an introductory chapter on the Rise of Inland Golf, discourses in an easy and pleasant style on the choice and use of the various clubs and on the ways in which different shots demand, for their execution on inland turf, methods which vary from those required on seaside links. Chapters on Play in Wind, the Negotiation of Inland Hazards, the Secret of Long Driving, Imitation, Straight Tips, and the Versatile Niblick, include many points of keen observation, and many original suggestions from the play and experience of the author, who does not hesitate to poke a little quiet fun at his own "unorthodox" peculiarities. There is a sufficiency of excellent photographs. A short index would be useful.——*Golf Practice for Players of Limited Leisure*, by HENRY HUGHES (London: Thomas Murby and Co. 1913. Price 2*s.* 6*d.* net), is a short guide which beginners will find of use. The acquisition of an effective style is taught by detailed instruction, beginning with the "stance" and the "grip," and working through the different clubs from driver to putter. The method of the author is careful and painstaking; he goes into minute detail, and, failing a garden, advocates home practice even on a boarded floor. A series of large full-page photographic illustrations helps out the printed directions.

JOURNALS AND MAGAZINES.

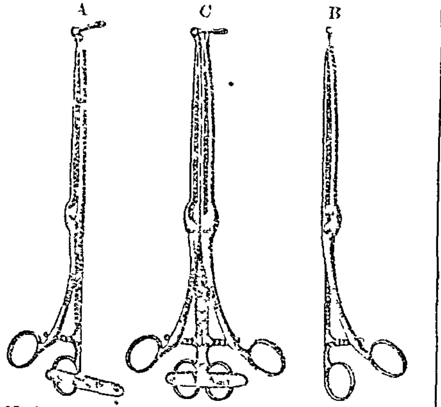
Quarterly Journal of Experimental Physiology. Editors: E. A. SCHÄFER, W. D. HALLIBURTON, C. S. SHERRINGTON, E. H. STARLING, and A. D. WALLER. Vol. VII., No. 1. London: Charles Griffin and Co., Limited. 1913. Pp. 1–101. Price 7*s.* 6*d.*—The General Condition of the Spinal Vaso-Motor Paths in Spinal Shock, by F. H. Pike. This communication is one of three on the Physiology of the Central Nervous System—the two previous papers were published in 1909 and 1912 in the *American Journal of Physiology.* This paper is a highly interesting one, but the space at our disposal is not sufficient for us to give a detailed account of the experimental results, while the discussion thereon alone occupies six pages.—An Investigation of Nerve Regeneration (eight figures in the text), by Henry O. Feiss. After a short historical introduction and the setting forth of the autogenic and outgrowth theories, the author describes his method of multiple ligatures applied to the peroneal nerve in adult cats—a nerve both long and easily accessible. The staining methods used were those of Weigert-Pal and Cajal. The author infers that regeneration proceeds centrifugally from a central source, but the neurilemmal sheaths must be in a proper condition, both mechanically and nutritionally, to receive the newly regenerating fibres. The manifestations of this central regeneration are often discontinuous, as the scars form regions of obstruction to the outgrowing nerve fibres. The sheath cells do not have inherent properties of neuroblasts. Fibres which have degenerated may show regeneration in the anatomical sense, with good myelination, even if they are prevented from making connexion with the peripheral end organs.—The Chemistry of the Mammary Gland, by J. Argyll Campbell. Up to the present practically nothing is known about the quantitative composition of this gland as regards water, protein, fat, and sugar The author finds that gland tissue from lactating bitches and cats shows considerable differences between different parts of the same gland, between glands of the same animal, and between glands of different animals of the same species. Lactose is found only when the gland contains milk, and is not found in the gland of a pregnant animal. It is concluded that as lactose is not a constituent of the parenchyma cells, it must be formed from some other substance in the process of secretion into the alveoli. The fat obtained from the gland cannot be taken as an indication of the amount of milk constituents it contains, as fat is found both in the parenchyma cells and in the adipose tissue between the alveoli.—The Vascularity of the Liver, XI., the Motor Reaction in the Portal Radicles of the Liver, by Russell Burton-Opitz. Relying on the action of adrenalin while perfusing the liver, the author concludes that the radicles of the portal system of the liver possess motor activity; the hepatic plexus innervates this motor system. The portal mechanism includes the distributing tubules and the central collecting channels, and it is distinct from the mechanism of the terminals of the hepatic artery.—The Antagonism between Adrenine and Chloroform, Chloral on the Heart, Induction of Rhythmic Contractions in the Quiescent Heart by Adrenine, by James A. Gunn. An isolated heart of a cat or rabbit was used and perfused with Locke's fluid (without glucose). Adrenine can antagonise a heat enfeebled with chloroform, and has a more complete antagonism to chloral, as it can revive rhythmic contractions in a heart arrested in diastole by chloral. These contractions are regarded as independent of intrinsic motor ganglia.—On Age and Metabolism, and on the Significance of the Excretion of Creatine, by R. A. Krause. Creatine occurs in the urine of children; in boys creatinuria ceases about the fifth to sixth year; it persists longer in girls. The power to assimilate creatine is much less in children than in adults; even 0·3 gramme is excreted.

The Child for November opens with a very readable article by Sir John Kirk, director of the Ragged School Union, and well known for his active interest in the welfare of the poorer children of our metropolis. He contrasts the insanitary conditions of 50 years ago with the improved conditions of to-day, and asserts that after making every allowance it cannot be denied that child life in England to-day compares most favourably in all respects with the conditions which obtained in the early "sixties" of the last century. It is a felicitous thought of the author that the child exemplifies the truth associated by Tennyson with the flower in the crannied wall. Dr. Harry Campbell writes on Diet and Child Welfare, and Mr. J. R. R. Trist discusses the Taking of Medicine by Children, pointing out that mothers who keep a nursery medicine cupboard frequently do not seem to know that a drug which is capable of doing good is also capable of doing harm He calls attention to the danger of over confidence in the mother's skill of treatment, with the consequent danger of "curing' the symptom regardless of its cause. He thinks that two drugs only need be found in the nursery medicine cupboard—viz, *castor oil* and camphorated oil Other articles of interest are the Training of Nurses as a Profession for Gentlewomen, by Mr Bransby Yule, and Child Welfare Work in Westminster, by Dr. F. J Allan, medical officer of health

New Inventions.

GASTRO ENTEROSTOMY CLAMPS

THE gastro enterostomy clamps illustrated below can be applied separately and then easily combined (C) so as to hold the stomach and jejunum in suitable apposition without the help of an assistant The clamps can be disconnected without sliding one on the other, and consequently without exerting any strain on the stitches uniting the jejunum to the stomach As shown in the figures, the ratchet of each clamp is visible in the position in which it is applied, and so the degree of compression exerted is easily recognisable As a rule, sufficient compression is obtained by clamping to the second notch sometimes to the third The clamp for the stomach (A) is of a slightly stronger build than that for the jejunum (B) The length of the clamping surface of the blades is 5 inches The clamps were made for me five years ago by Messrs Mayer and Meltzer, of Great Portland street, London W, and after repeatedly using them during that period I find they possess all the requirements I need in gastro enterostomy clamps



BILTON POLLARD, M B, B S Lond, F R C S Eng
Harley street, W

PRESENTATION TO A MEDICAL MAN —Mr Stuart H Kingston, M B, M R C S Eng, was recently entertained at dinner by former fellow residents on resigning the post of senior medical officer at Bristol Royal Infirmary, and a presentation was made to him

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN —The annual dinner of the hospital and school will be held at the Trocadero Restaurant, Piccadilly circus, on Wednesday, Dec 10th, at 6 45 for 7 15 P M Dr J Walter Carr will take the chair Applications for dinner tickets (price 7s 6*d* each) should be sent to the honorary secretaries, Dr Winifred Cullis, 8, Hunter street, Brunswick square, W C, and Dr Frederick Langmead, 47, Queen Anne street, W, not later than Nov 29th

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

Dispensary Treatment of Tuberculosis

IN connexion with the preparation of a comprehensive scheme for the treatment of tuberculosis in London[1] the Public Health Committee on Nov 18th invited the London County Council to decide the general principles upon which it will approve the local dispensaries which are to be administered by the borough councils It was proposed that borough councils should make arrangements to pay for patients residing in the district under their jurisdiction attending dispensaries attached to hospitals in any part of London, and the following were the conditions which the Council should require to be observed in any local scheme for the provision of dispensary treatment —

(i) The Council must be satisfied that the premises are suitable

(ii) [illegible] in the dispensary or at a [illegible] dispensary, for the diagn[illegible] and of incipient anom[illegible] on the ground of difficulty of diagnosis

(iii) The physician in charge of the dispensary (or tuberculosis officer) must be a man of experience not only in dealing with tuberculous affections but also in general medicine

(iv) Proper records and statistics in connexion with the work of the dispensary shall be provided of the nature and in the form required by the Council and approved by the Local Government Board

(v) The physician in charge of the dispensary shall supply to the medical officer of health of the borough from which the patients are drawn such information as the medical officer of health may reasonably require and the county medical officer of health shall be entitled to receive this information from the borough medical officer The physician in charge of the dispensary shall also furnish the requisite information to any medical practitioner carrying out domiciliary treatment or in a case which is referred to a sanatorium, to the medical officer of the institution

(vi) The scheme shall include provision for home visitation of patients either by the dispensary phy[illegible] of health of the borough or his s[illegible] by the dispensary physician of such [illegible] health or a medical practitioner may [illegible] or in the homes of suspects and contacts

(vii) The scheme shall be conducted with reasonable economy and the expenditure shall be annually submitted to the Council for its approval

(viii) The scheme shall provide for distinguishing clearly between the cost of treating insured and uninsured persons having regard to the opinion expressed by the Council that insured persons should not be paid for out of the rates

The report was approved

Control of Lying in Homes

The Midwives Act Committee reported with reference to the decision of the Council to promote legislation for the control of lying in homes and institutions that as the Council had decided to proceed by means of registration in the case of nursing homes and massage establishments[2] the committee thought it best to withdraw its proposal to license lying in homes and to substitute the policy of registration The Council decided to seek Parliamentary powers on the lines recommended by the committee

Basis of Medical Inspection and Treatment Grants

It was reported to the Education Committee of the Council on Nov 12th that the Board of Education has decided to make grants for medical inspection as well as treatment, and when satisfied that the provision was adequate and the working efficient, to pay a grant at the rate of one half of the expenditure, and otherwise either to pay at a lower rate or withhold the grant The effect of the change is that whereas the grant last year represented only 28 per cent of the total expenditure, the Board is now prepared to pay at the rate of 50 per cent The points which the Board will take into consideration in deciding the quality of the school medical work are the inspection of the groups prescribed by the code, the following up and treatment of cases of defect found in the course of medical inspection, the coördination of the work with the general public health service, and the organisation of school medical work as an integral part of the education system

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[1] THE LANCET, Nov 15th, [illegible]
[2] THE LANCET Oct 25th, [illegible]
[3] THE LANCET, Nov [illegible]

THE LANCET.

LONDON: SATURDAY, NOVEMBER 22, 1913.

The University of London: the Position of the Government.

A LETTER addressed by Mr. J. A. PEASE, the President of the Board of Education, to Dr. W. P. HERRINGHAM, Vice-Chancellor of the University of London, was sent to the press at the end of last week by Mr. PEASE, and has received such wide publicity that there is no need for us to reproduce it. All interested will have read it. The letter states very frankly the desire that the position of the Government in regard to the proposed reconstitution of the University of London should be generally realised, so that future discussion of the subject shall be as far as possible free from misunderstanding, and we wish it were possible to believe that this desire will be achieved. To a great extent Mr. PEASE'S letter was a repetition of his speech made some fortnight ago at the distribution of prizes to the successful students of the City and Guilds Institute at the Mansion House, so that for some days past we all of us have been aware of the views entertained by the Government upon the Report of the recent Royal Commission upon the University, but we have not observed that knowledge of these views has produced a tendency among those who had previously held diverging opinions to alter their attitude in any direction towards a common reconciliation.

The Royal Commission over which Lord HALDANE presided, it will be remembered, published a unanimous report, an abstract of which, with special reference to the Medical Faculty, appeared serially in our columns. The substance of this report made it clear that there were going to be great differences in the public estimate of the merits of many of the recommendations, even though on all hands the clearness and conciseness of the document was admitted, as well as the receptive attitude of the Commissioners and the skill with which they had made summaries of involved situations. The differences indeed were inevitable, for the recommendations brushed aside objections to reform in certain directions with a completeness that could not fail to be painful to many a loyal upholder of the University of London, as far as previous conceptions of the responsibilities and duties of that University was concerned. But the Commissioners achieved one thing in the course of dealing with recognised ills of long existence which it behoves medical men to remember—they made it quite clear that our profession will be wrong if we consider that the problem of the reform of the University of London is only concerned with improving the scheme of medical education in London, or with perfecting the Medical Faculty. The position of the London medical student who, despite his admirable training and his unrivalled clinical opportunities, does not possess the same facilities for obtaining a degree in medicine at his local university, that are possessed by other medical students, has, of course, always been a main subject of interest for our readers and ourselves. It will continue to be such a main subject of interest, but in the discussions which are sure to ensue, and ensue shortly, it will be necessary for us to recollect that an enormous sum of money will have to be found by the State for the needs of the University as a whole, and that that sum of money will not be allocated in particular to the scientific and medical faculties. The Departmental Committee, which has been appointed by the Board of Education to consult the bodies and persons concerned in the reform of the University, will recommend the special arrangements and provisions which may be immediately adopted, to quote the words of Mr. PEASE'S letter, "for the purpose of giving effect to the scheme of the report of the Royal Commission and as the basis of the necessary legislation. The Committee will not attempt to go again over the ground covered by the Royal Commission. The Government, after careful consideration, have decided that the scheme of the Report is calculated to produce a University worthy of the name."

We now know, therefore, that the main principles of the report of Lord HALDANE'S Commission will form the basis of a Bill in Parliament. The Departmental Committee is now discharging its duty in discovering how far the numerous bodies and persons concerned can coöperate in giving effect to the principles underlying the scheme of the Royal Commission: and the outstanding features of that scheme are that the position of the internal students of the University is to be securely established; that control of the teaching and the examination of students in the colleges of the University is to be in the hands of the teachers; that the educational and financial control of the constituent colleges is to be vested in the University; that the government and financial administration of the University is to be entrusted to a small Senate; that as far as possible the work is to be concentrated in a central University quarter; and, lastly, that the scheme of reconstruction is to provide effectively for continuance of access to University examinations by external students—that is, by those who are not attached to any college or school of the University. Every one of these principles, which are to be recognised in future action, may be criticised by someone. The size of the Senate, the privileges and deprivations of the constituent colleges, the particular site, and the facilities offered to external students are all points upon which acute variations of view may be expected; but Mr. PEASE indicates in weighty words that the scheme of the report of the Royal Commissioners ought not to be rejected by the public "because in this point or in that it may fall short of their ideals or is even contrary to what they think best." He asks for sacrifice on individual points, because this is necessary for the carrying out of the scheme as a whole, and reminds us that it is the only one in the field, and that if it should fail of accomplishment all chance of reform and progressive development may be lost for many years. The gravity of the situation is best realised by adding to his words the comment that the sacrifice in some instances will mean the surrender of things believed by many to be the things that matter most.

As far as the great aims of education have to be reckoned with there is one part of the scheme of the Royal Commissioners which seems to be at first sight of less importance than the others, and that is the recommendation that a central site for the reconstituted University should be chosen. The balance of the claims of the external and internal students, the demands for adequate professorial instruction, the bringing into proper line of the work of research with ordinary academic teaching, the simplification of the medical curriculum—surely these are all great questions compared with the question of the site where the work shall go on; and yet it is a curious circumstance that there may be practical reasons for settling the question of the site of the University first. To have this one concrete source of dispute cleared away may assist in the evolution of a fair and symmetrical method of reconstructing the University. No one scheme that exactly suits the external students can exactly suit the internal students, but if the central site is chosen first its selection may prove a powerful factor in the development of concessions in this direction or that, which are hard to exact at the moment when there is no assured and material condition by which their amount can be estimated. The merits of the various available sites are now the subject of close scrutiny, and it is certain that the convenience of coming to a decision on the matter at an early stage in the work of reconstruction has made itself apparent to others than opportunists. Sacrifices are expected from all concerned, and it is fair to suppose that those who get what they want in one way will be ready to yield in other ways.

Florence Nightingale.[1]

When Miss Nightingale died in 1910, at the age of 90 years, her work was so long overpast that the necessary perspective for reviewing it was as easily attained as if she had already been dead for many years. Nay, its remoteness was sufficient for the accumulation of those mists of tradition which veil the past and obscure the sharpness of its outlines. From the earliest Crimean days a strong trace of religious idealism attached to the hero-worship which the British army and the British public so freely accorded to her. Miss Nightingale's aversion from publicity and ostentation, and the secluded semi-invalid life she led, even when she was actually exceedingly busy from her sofa in constructive reform, contributed towards the popular conception of her as one hardly lower than the angels. The real Florence Nightingale was a much more human person; not less remarkable or less competent than report painted her, but certainly more of a diplomatist and woman of the world.

It is this Florence Nightingale that Sir E. T. Cook reveals in a biography which ranks in the very highest class of that difficult literary art. His critical summary of her character begins with the statement that she was "by no means a Plaster Saint," and in this reversal of the verdict of mid-Victorian England all who read Sir E. T. Cook's volumes must agree. She was a woman of imperious will, not good either at forgetting or forgiving; nor could she suffer fools, gladly or otherwise. Industrious and business-like herself in the extreme, she despised men or women who were not. She had no use, as Sir E. T. Cook says, for "angels without hands," and was essentially a "man of facts" and a "man of action." Indeed, her character was in some respects more masculine than feminine. (She described once in a letter "the difference between myself and other men," a pleasantry which hid just a grain of fact.) She did not relish any independence in opponents; she displayed at times distinct hardness; she was not very tolerant; she had a talent for political intrigue, which she exercised freely to further her projects. These traits may not be a necessary part of greatness, yet they are often found in great men. To them Miss Nightingale united others which great men often lack, great women rarely. Pity, sympathy, compassion, devotion to the sick, were felt even more deeply than they were exhibited, for self-revelation was wholly alien to her nature. For sheer intellect few women of the last century can compare with her; in addition, she had also great charm, and a wit which was frequently pungent. "Masterful in action," says Sir E. T. Cook, "she was humble, even to the verge of morbid abasement, in thought." Intensely religious, she was in some ways impatient of creeds and formulas; and hygiene for the body she placed antecedent to care of the soul. Her genius lay most of all in command and administration; in the selection and training of subordinates; and in military virtues of discipline for herself and others. Thus is explained her fervent affection for the soldiers, alike in times of war and times of peace.

Miss Nightingale in short was one of those exceptional beings whom the vast majority must admire and reverence but cannot hope to equal.

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[1] The Life of Florence Nightingale. By Sir E. T. Cook. London: Macmillan and Co. Two vols. Pp. 1017. Price 30s. net.

The medical profession can especially appreciate her achievements, for she forged its trustiest weapon, the modern nurse. Jealous as she was for the honour of her nurses and of nursing, and bitterly as she differed from some of the medical authorities of the day, those who study her life story carefully will see in her many of the attributes of the ideal surgeon. The patience and the serene indifference to criticism of LISTER were not hers; but in other respects she exhibited qualities which were present also in the founder of modern surgery, and it is conceivable that had she been a man she would have become a surgeon. That she actually on one occasion attacked Listerian doctrines is no proof that she would have failed to grasp those illuminating conceptions had she been a trained scientific worker in the same field. She had the surgical temperament strongly developed, as the interested may deduce from the evidence afforded in this book. Hence the story of FLORENCE NIGHTINGALE's life has an interest for the medical profession beyond that of her actual work, closely as this, too, touches on medical science. Intrepid, self-sacrificing, clear-headed, deft-handed, tender, intellectual, resolute, retiring, and a marvellous organiser, she surpassed both in achievement and in personality all other Englishwomen in an age notable for its noble women.

Annotations.

"Ne quid nimis."

MOSQUITOES IN AND ABOUT EPPING FOREST.

In this country the bite of the mosquito or gnat has not in ordinary circumstances to be dreaded as a possible carrier of serious infections like malaria, and is generally considered as one of the inevitable minor annoyances of life, calling merely for a very moderate exercise of philosophy and patience. Such annoyances, however, are by no means to be disregarded from the point of view of public health, if it is practicable to remove them, and it must be admitted that the suppression of the swarms of biting insects which are common on the outskirts of London and other large towns would be worth some effort. Some individuals have special susceptibility to gnat bites, and show a strong reaction to them; the bite is sometimes, though rarely, the starting point of septic infection; while town dwellers whose only opportunity of using their gardens or recreation grounds is the evening often find their outdoor rest or recreation seriously curtailed. From this point of view we welcome a report of a conference on the "Mosquito Nuisance," convened in September by the urban district council of Chingford, and attended by representatives of the chief local authorities in the neighbourhood of Epping Forest. The medical officer of health of the Chingford district, Mr. T. S. Brook, who had given close attention to the subject, urged with much reason that the prevalence of these biting insects should be taken seriously as a matter of local sanitary administration, and his views appear to have received general acceptance. Mr. Brook was able to present an interesting report on the natural history of the common mosquitoes and gnats of the neighbourhood and their suppression, made by Mr. E. H. Ross, a research officer of the McFadden Research Fund. Mr. Ross found, as might, perhaps, have been expected, that the culices here in question did not breed to any notable extent on any of the larger expanses of water in Epping Forest, or even in the larger cattle pounds. And while they were frequently present in puddles and pools of stagnant water in the open spaces of the Forest, their abundance was much greater in the enclosed grounds of the neighbourhood, particularly in the water-butts of private gardens. It is argued, in fact, that the local "plague" which received so much attention last summer could have been very effectually reduced by a coöperative action of the inhabitants, which it should not be difficult for an intelligent local authority to secure. Much could be done by systematic visits to houses and the circulation of information. As a counsel of perfection all water-butts should be emptied once a week, but failing this a weekly oiling is as efficacious. There is no reason to apprehend damage to plants from water thus treated. Small vessels which have been left lying about and collect rain water are also great offenders the remedy for which is simple. The attempt of the local authorities to secure the assistance of householders in such respects, combined with arrangements for removing obstructions from stagnant brooks, for filling in small unnecessary pools and like matters, will be watched with interest when it is made, as we hope it will be, in the coming year. Much more drastic action would no doubt be necessary to exterminate mosquitoes and gnats locally, but there seems good reason to anticipate that the simple measures proposed may be successful in minimising an undoubted nuisance.

EYESIGHT AND NAVIGATION.

In an address to the Royal Philosophical Society of Glasgow, published in the *Ophthalmological Review* for August last, Dr. A. Freeland Fergus gives a sympathetic criticism of the recent report of the Departmental Committee of the Board of Trade on Sight Tests in the Mercantile Marine. After emphasising the dangers of defective eyesight in those responsible for the safe conduct of the travelling public he considers some of the chief points in detail. On the whole he agrees with the conclusions of the committee on the much-disputed question of colour vision. His criticisms of the wool test are largely those of the committee itself, yet he agrees that the test has a distinct utility even though it be not free from pitfalls. The addition of a lantern test meets with his hearty approval, and he goes on to urge the "standardisation of the colours of the sidelights of ships and of their luminosities." By thus emphasising both colour and brightness or luminosity he shows that he has a proper appreciation of the difficult problem of colour defects, a point so often ignored by writers upon the subject. Such a standardisation did not come within the terms of reference of the committee, but we have no doubt that they would heartily approve of it. That it was brought to their notice is shown by Dr. W. H. R. Rivers's memorandum, which is found in the appendix to the report. The present time would appear to be favourable for bringing forward this very wise suggestion. We have at the present moment meeting in London an International Conference on the Safety of Life at Sea. Unfortunately, its programme is probably over-full with other and perhaps more important items. Yet it is a matter of some weight and should be pressed forward. It is not so simple as it seems, and Dr. Fergus's own suggestions are open to criticism. The replacing of a green light by a distinctly blue-green is satisfactory in some cases where fog is little likely to prove troublesome; but the great absorption of the blue rays by fog seriously limits the utility of bluish lights. Dr. Fergus concludes his paper with some remarks upon the "form" sense, a term which he uses in a different meaning from most writers. We do not altogether agree with his views, but they are interesting if only as indicating that in the limit there is the same difficulty in divorcing the form-sense from the light-sense that there is in divorcing the colour-sense from the light-sense. We warmly recommend all who are interested in the subject to study this paper.

URETERAL CALCULUS WITH PAIN GREATEST ON THE OPPOSITE SIDE.

IN the *Bristol Medico-Chirurgical Journal* for June Mr. C. A. Moore has reported a case of ureteral calculus with the curious anomaly of pain greatest on the opposite side. A man, aged 38 years, was admitted to hospital. His illness began three months before with frequency of micturition (every two hours by day and about three times at night). Three weeks later he began to suffer from a dull ache across the loins, but much worse on the right side. A month before admission pain was felt in the hypogastrium and along the urethra on micturition, especially towards the end. Three weeks before admission blood suddenly appeared in the urine. This gradually diminished until the urine was only faintly tinged, but generally a few drops of blood were passed towards the end of micturition. Just before admission the hæmaturia ceased, but the pain on, and frequency of, micturition continued. On examination a markedly tender spot was found just internal to the left anterior superior spine of the ilium. The kidneys could not be palpated, but there was marked tenderness when pressure was made on the loins, and the lumbar spine was somewhat rigid on stooping. Cystoscopy and rectal examination were negative. The urine was acid and contained a good deal of pus, but no blood corpuscles. At intervals of about a week the temperature rose to 102°–104° F. with a rigor, but no urinary symptoms occurred. Skiagrams showed a small shadow in a position corresponding to the pelvic part of the left ureter. In view of the doubt as to the side affected it was decided to explore both urinary tracts by median laparotomy. The right kidney was distinctly large but felt perfectly normal, as did the ureter. The left kidney was small, but felt normal. In the pelvic ureter, just outside the bladder, a small hard mass was felt. The median incision was closed and an extraperitoneal ilio-inguinal incision was made. The ureter was incised and a calculus was extracted. The incision was so inaccessible that no attempt was made to close it, and the abdominal wound was sutured with a drainage tube passing down to the wound in the ureter. Complete recovery ensued. A few months later the patient complained of a dull pain in the loins and frequency of micturition. A skiagram showed no sign of calculus, but the urine was swarming with bacillus coli. The chief interest of the case is the fact that although the calculus was in the left ureter the pain was chiefly in the right loin. Some years ago a theory originated by Thornton and Guyon was in vogue, the so-called reno-renal reflex, which meant that reflex pain might be caused in a healthy kidney by a calculus in its fellow. The possibility of this was denied by Sir Henry Morris, who held that pain in a healthy kidney never occurred except as an accompaniment of more severe pain in its fellow. At first sight reno-renal reflex seems to explain the pain in the right kidney in this case, for all the symptoms temporarily subsided with the removal of the calculus from the opposite ureter. However, the recurrence of slighter symptoms on that side on the onset of the bacilluria obscures the issue, as the pain might have been due to pyelitis produced by the colon bacillus. But Mr. Moore thinks that the possibility of reno-renal reflex cannot be wholly put aside, for stone in the upper part of the urinary tract may cause a reno-vesical reflex with hypogastric and perineal pain and dysuria when the bladder is perfectly healthy. The only way to settle the diagnosis seemed to be to explore both tracts through the abdominal wound.

"DEFIXIONES."

THE votive offerings of classical times have attracted a good deal of attention. Less has been known until recently about the *defixiones*, or curses, which were a natural corollary of the conception of votive offerings. The means that are potent for good can always be diverted for evil. And the appeal to the gods to intervene and remove the punitive suffering they had inflicted on account of their own anger would naturally suggest in course of time that that anger might be set in motion against any personal enemy. Various methods of bringing this about have obtained in different ages and localities, but in Greek and Roman times a very interesting one was by means of imprecations written on tablets of lead or talc. The name defixiones results from the idea that the inscribed curses would fix down the person against whom they were directed. The word *defigere* was used with *pavor*, *stupor*, by classical writers to signify what we mean when we speak of someone being "rooted to the ground" with terror. A man might be *defixus dira imprecatione*, and that on which the curse was inscribed became metonymically a *defixio*. Specimens of these imprecatory texts have been found at various sites in Italy, Greece, and Asia Minor, and especially in Egypt, and several are to be seen in the British Museum.[1] A new collection of these Tabellæ Defixionum has recently been acquired from Rome by the Johns Hopkins University of Baltimore. They have been edited by Professor Sherwood Fox, of Princeton University. Not only are they of palæographical importance as specimens of Latin cursive script of the first century B.C., but they are also of great medical interest, seeing that the chief curses inscribed upon them consist in calling down various diseases, so that nearly every then known disease and vital organ of the human body is specified in them to ensure injury to the victims. A certain Avonius was important areas are classified by sex and cause, but not by age. Particulars are not given of the mortality from the many thousands of death-causes specified in the tables for smaller areas, but with a view to afford inquirers the means of making such calculations estimates of the several populations are included in the published tables.

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[1] A large number of *Tabellæ Defixionum* have been published by M. Auguste Audollent, and many more by Herr Richard Wünsch. It is to be noted that in the Latin of popular speech scant attention was probably paid to such grammatical niceties as case endings. The instances here given are quoted without alteration from Professor Sherwood Fox's memoir.

Urban and Rural Areas.

The Registrar-General again accentuates the caution, frequently uttered in these columns, against the too common practice of comparing statistical data which are in their nature incomparable. In respect of mortality the dwellers in towns are at a disadvantage as compared with those in the country; and as the counties contain urban and rural areas in varying proportions they do not form strictly comparable areas, either singly or in combination. Speaking generally, the urban areas included in the counties represent the smaller and the county boroughs the larger towns of England, while London stands alone as representing an exceptional type of city development. Three grades of urban area have now been established, and these with the rural areas make up the four great divisions of territory adopted in the new series of reports of the Registrar-General. For each of the divisions tabulation in great detail has been carried out, so that the effects of local conditions may be measured with precision, whereas hitherto only rough approximations have been possible. As an illustration of the manner in which estimated populations may be applied to deaths, so as to afford legitimate contrasts of mortality, the comparison now made for the first time between the before-named divisions of England will be found useful and suggestive.

Occupation of Parents and Infant Mortality.

The classification of infant mortality according to the occupation of parents is an instance of the use for the first time of information that has long been available. In order to compare the fertility of those engaged in different occupations all the births registered in 1911 have been tabulated according to the occupation of the parents—of the father in the case of legitimate and of the mother in the case of illegitimate children. In the forthcoming decennial supplement the results will be published as an addition to the ordinary tables of occupational mortality. From this and other sources in conjunction the Registrar-General anticipates that our knowledge of the causes and conditions of mortality among young children will be materially extended.

(*To be concluded.*)

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on Nov. 13th, Mr. G. H. MAKINS, Vice-President, being in the chair.

The SECRETARY reported that the President, with the object of fulfilling his undertaking to attend the first annual congregation of the American College of Surgeons at Chicago, left England on Oct. 25th, and expected to be back in London on Dec. 8th.

The SECRETARY reported the death on Oct. 22nd of Dr. J. Lucas-Championnière, an Honorary Fellow of the College, and stated that the President had written to the widow to express the sympathy and condolence of the Council.

It was resolved to grant Diplomas of Membership to 102 successful candidates.

In accordance with the recommendation of the Discipline Committee, the name of a former Member of the College which had been removed was restored to the roll of Members.

It was resolved to grant to the University of London the use of the College lecture theatre for lectures on the Cultivation of Animal and Vegetable Micro-organisms, to be delivered by the superintendent of the Brown Institution in December.

The SECRETARY reported that the Bradshaw Lecture would be delivered by Mr. G. H. Makins on Friday, Dec. 5th, at 5 P.M., and that the subject of the lecture would be Gunshot Wounds.

The senior VICE-PRESIDENT reported that Mr. W. G. Spencer's term of office on the Court of Examiners would expire on Dec. 10th, and that the vacancy thus occasioned would be filled at the ordinary meeting of the Council on Dec. 11th. Mr. Spencer is eligible for re-election.

The SECRETARY reported the notices of motion for the annual meeting of Fellows and Members on Nov. 20th.

REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1911.

THE present report is submitted by Major J. C. Robertson, I.M.S., who assumed charge of the Sanitary Commissionership with the Government of India on May 17th, 1912, and deals with the calendar year 1911. The general discussion on the meteorology of the year, which formerly introduced the report, is now omitted; but the principal meteorological elements are furnished in an appendix, and in Section III. the main facts of importance are briefly summarised. On the whole the year 1911 was drier than usual, the total average rainfall of India having been about 3 inches (6 per cent.) below normal, due to the weakness of the monsoon. The highest rainfall occurred at Akyab, on the Burmese coast, where the total precipitation reached 209·5 inches, being 18·5 inches above the average; of this quantity 67 inches fell during August, being 23·8 inches above the average for the month. The highest temperature recorded was 119·2° F. at Peshawar in June; in the same month 118·3° was registered at Multan.

Health of the European Army in India.

The average strength of the European troops in India (excluding officers) during 1911 was 72,371. Of this force the admissions to hospital numbered 524·7 per 1000; there were 28·8 per 1000 constantly sick in hospital, 4·89 per 1000 died, and 7·12 per 1000 were invalided home. All these ratios were considerably below the preceding quinquennial average (1906-1910), and all, except the death-rate, were below those for 1910. The slight increase from 4·66 to 4·89 in the mortality was due chiefly to heat-stroke and cholera. For the first time on record enteric fever has not shown itself to be the most fatal disease for British troops, having caused only 0·33 deaths per 1000, while 0·46 per 1000 was due to hepatic abscess.

The forces in India are divided into a Northern Army, having a strength of 37,715, with divisions at Peshawar, Rawal Pindi, Meerut, and Lucknow, and three brigades on the Afghan frontier; and a Southern Army numbering 32,059, with divisions at Quetta, Mhow, Poona, Secunderabad, and in Burma, also a brigade at Aden. The admission rates for the two armies have been respectively 540·3 and 529·7, and the death-rates 5·54 and 4·27 per 1000. The chief causes of sickness in the Northern Army were malaria (86·1 admissions per 1000), sandfly fever (33·6), pyrexia of uncertain origin (32·3), and venereal disease (47·3). In the Southern Army malaria caused 99·9 admissions per 1000, and venereal diseases 61·9; while for sandfly fever there were only 3·9, and for uncertain pyrexia only 20·6 per 1000. Enteric fever caused 0·34 deaths per 1000 both in the Northern and the Southern armies; for cholera the death-rate was 0·45 in the former body and 0·12 in the latter.

On comparing different parts of India as regards the total amount of sickness—that is, the number of men constantly sick in hospital, we find the Burma inland group of stations (Mandalay, Shwebo, &c.) holding the highest place with a ratio of 37·4 per 1000, while in the Deccan the ratio was only 27, and in Burma Coast 26·5 per 1000. The admission rate was highest in the North-West Frontier, Indus Valley, and North-West Rajputana group of stations (830·9), and lowest in the Deccan (428·9 per 1000). The individual stations that have been most conspicuous for sickness have been Peshawar, with an admission ratio of 1219 and 40·4 constantly sick; and Attock, with corresponding ratios of 1154 and 30·1; Thyetmyo, Benares, and Nowgong had admission ratios of over 800 per 1000 strength. On the other hand, for Belgaum the admission ratio was only 296, for Kirkee 330, and for Secunderabad 355; the constantly sick ratios for these three stations being 20·6, 26·2, and 25·5 *respectively. The large stations that are unhealthy are* practically all in the Northern Command, while the large stations of the Southern Command are practically all healthy.

Principal Diseases.

The year under review was on the whole healthy, and malarial fevers were less prevalent than usual. The admission ratio was 90·2 per 1000, as compared with 132 per 1000 in 1910. In addition there were 26·4 admissions per 1000 for pyrexia of uncertain origin, and 19·2 for sandfly fever, the corresponding figures for 1910 having been 37·7 and 7·1. Malaria prevailed most at Bellary (301 admissions per 1000), Mhow (251), and Peshawar (206), but these ratios are comparatively low. Antimalarial measures are being actively carried out by mosquito brigades, with systematic quinine administration, each man having a malarial case-sheet, and the treatment being continued until he is free from infection.

For enteric fever the number of cases that have been admitted is the lowest on record. Throughout the whole of India only 170 cases were admitted, with 22 deaths, the ratios per 1000 being 2·30 and 0·30 respectively. There were in addition 104 cases of paratyphoid fever with 2 deaths. There were no large outbreaks of enteric fever, the greatest number of cases in any one unit being 11 in the Norfolk Regiment. The disease occurred mostly as isolated cases, and there was no evidence pointing to drinking water, milk, or any food article as being the cause. At Lucknow there were 38 cases during the year, 28 occurring during February, March, and April. At Bareilly 26 cases were admitted, of which 22 occurred during January, February, and March; these were the nearest approaches to epidemic prevalence recorded, but no explanation is given of these outbreaks, as might have been expected. Paratyphoid fever occurred in 29 units, the largest number of cases in any one being 14 in the Royal Scots at Bareilly. Great care is now being taken in the detection of the disease, and the number of cases diagnosed is likely to increase, while the admissions for "pyrexia of uncertain origin" will diminish. The diagnosis by serum reaction is complicated by the fact that nearly all of the patients have been inoculated against enteric fever. The earlier work of Major Harvey and Captain Wood, of the Royal Army Medical Corps, showing the value of the absorption method in determining the true nature of the infecting organism has been developed and confirmed. Steady progress has been made with inoculation, 85 per cent. of the European troops in India having now been inoculated. Comparing the incidence of enteric in the two bodies of men, we find that among the inoculated the admission ratio has been 1·7 and the death ratio 0·17 per 1000; while in the non-inoculated these ratios have been 5·9 and 1·15 respectively. The [illegible] 37 and 17·18. Anti-enteric [illegible] protection against para- [illegible] a bivalent emulsion is [illegible] enteric after a lapse of [illegible] steadily advocated. The enteric fever hill depôts at Naini Tal and Wellington have been of the greatest service; convalescents from uncertain types of pyrexia are now sent to these depôts; and at Naini Tal Captain J. L. Wood found five out of 138 cases to be excreting the paratyphoid bacillus A. The excellent suggestion is made that early blood culture, from second to fifth day of disease, should be systematically carried out. Only by such procedure "will there be any hope of reducing the chaos which surrounds the pyrexias of short duration in India, and of arriving at the true facts concerning the precise prevalence of enteric and paratyphoid infections" In regard to carrier cases, 12 were detected in 85 paratyphoids, but not one in 95 enteric cases at Naini Tal. The use of an autogenous bacillary emulsion for the treatment of carriers, which in the previous year appeared to be most promising, has been found to be inoperative both at Naini Tal and Wellington.

Increased accuracy of diagnosis has probably been the chief reason for the return of 1393 cases of sandfly fever during 1911, compared with 512 in 1910.

The diminution in venereal disease amongst the troops has been as marked, and possibly as important, as the decrease in enteric fever. During 1911 the admission-rate was only 53·1 per 1000. This is to be compared with 58·9 in 1910, 80·7 in the quinquennium 1906–1910, and 273 in 1897–1906. As in the previous year, the Sanitary Commissioner records that this remarkable reduction is due to the coöperation between combatant and medical officers, chaplains, the Royal Army Temperance Association, and the men themselves. There was as usual considerable difference in the incidence of these diseases in different parts of the country, the admissions per 1000 numbering 114·8 in Burma (excluding Rangoon), and only 46·5 in the Upper Sub-Himalayan group of stations (Meerut, Umballa, Rawal Pindi, &c.).

(To be concluded.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose [illegible] s year is estimated [illegible] deaths were regis- [illegible] Nov. 15th. The [illegible] s, which had been [illegible] seven weeks of the current q [illegible] rate in these towns averaged 13 7, against 13·6 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 6·1 in Enfield, 6 9 in York, 7 0 in Swindon, 7·5 in Acton, and 7·7 in Oxford, to 19·3 in South Shields, 19 4 in Rotherham, 21·2 in Rochdale, [illegible] 35 from whooping cough, and 16 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·1, against 1·5 and 1·3 per 1000 in the two preceding weeks The deaths of infants [illegible] cases of measles, which had been 27, 49, and 50 in the three preceding weeks, rose to 43 last week; 7 deaths occurred in [illegible] 4 in Stockport, and 3 each in London, Birmingham, [illegible] referred to whooping-cough, which had been [illegible] in the three preceding weeks, declined to 35 last week; 9 deaths [illegible] also contained on Saturday last [illegible] of whooping-cough, 83 of enteric fever, and 61 of measles, but not one of small-pox. The 1159 deaths from all causes in London were 31 in excess of the number in the previous week, and corresponded to an annual death-rate of 13 4 per 1000. The deaths referred to diseases of the respiratory system, which had been 178, 207, and 205 in the three preceding weeks, were 206 last week, and were 37 below the number [illegible] week of last year. [illegible] 96 towns, 155 were [illegible] e and 321 were the subject of coroners' inquests. The causes of 42, or 0 9 per [illegible] either by a regis- [illegible] All [illegible] istol, [illegible] ham, [illegible] auses [illegible], and 2 each in Bury, Manchester, Rochdale, and [illegible]

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch to[illegible] estimated at 2,259,000 pers[illegible] 1041 births and 701 deaths [illegible] ended Saturday, Nov. 15th.

Bristol General Hospital.

When Mr. Joseph Storrs Fry's death left the presidentship of the hospital vacant it was generally felt that it would be difficult to find a worthy successor. The hospital is, however, extremely fortunate in having persuaded Mr. George A. Wills, the head of the well-known tobacco firm, to accept the office. The appointment has given the keenest gratification to everyone concerned. Equally fortunate has been the choice of a treasurer; Mr. Herbert M. Baker, who has been elected to the office (which was also held by the late Mr. Fry), has for years been chairman of the committee, and his energy and capacity for organisation have been largely responsible for the material advance which the hospital has made in recent times.

Scarlet Fever in Bristol.

Scarlet fever is epidemic in Bristol. Fortunately, it is of a mild type; out of 811 cases notified during the first ten months of the current year only three have ended fatally. It is well that this is the case, for the accommodation in the isolation hospitals is grievously inadequate, a fact which has been insisted upon again and again by the medical officer of health.

Society of Medical Officers of Health.

The West of England and South Wales branch of this society dined last week in Bristol at the Royal Hotel. Interesting speeches were made by the Bishop of Hereford, by Mr. Herbert Jones (president of the branch), and others.

"Sweating" District Medical Officers.

At a meeting of the St. Thomas's (Exeter) board of guardians on Nov. 14th the Rev. Dr. Browne, in supporting the application of Mr. Charles E. Gaitskell for an increase of salary, said that Mr. Gaitskell received a salary of £12 per annum as medical officer for Lympstone district (population 1000) and had to supply the medicine, and described the condition of affairs as "sweating." The subject was referred to the visiting committee.

Death of Mr. James Somer.

Mr. James Somer, M.R.C.S., L.S.A., died recently at his residence, "Uplands," Exeter. He was born in Cornwall, and educated at the Launceston Grammar School. After being apprenticed to the North Devon Infirmary, Barnstaple, he proceeded to University College Hospital, London, taking the double diplomas in 1858. He practised for a short time at Boscastle, Cornwall, and was presented with a handsome clock on his departure. He then removed to Broadclyst, Devon, where he made a large connexion. He was medical officer and public vaccinator for his district. For several years he was a manager of the Broadclyst Schools and a trustee of the local charities. About 12 years ago he retired from active work and took up his residence at Exeter.

A Proposed Hospital for Okehampton.

It is proposed to erect a cottage hospital at Okehampton, for which General Holley has given the site. The Holditch trustees have £1000 in hand, enough to defray the estimated cost of the building. The local nursing association has £150 to be utilised for furnishing the institution. The maintenance of the hospital is estimated at about £200 per annum, which amount could be defrayed by the Holditch Trust and the nursing association conjointly. Plans have been [illegible] it is hoped that the proposal will be [illegible].

Nov. 18th.

SCOTLAND.

Medical Opposition to the National Insurance Act in Scotland.

AT a meeting of the Medical Guild held in Edinburgh on Nov. 15th, and attended by more than 100 medical practitioners, Dr. John Playfair presiding, the following resolution, moved by Professor William Russell, was carried:—

> That this Guild adheres to the position it adopted when the National Insurance Act came into operation, and it resolves to federate with all associations which hold a similar policy—namely, the maintenance of the honour and freedom of the medical profession and the continuance of an uncompromising opposition to the method of administration of the medical benefits under the Act.

Edinburgh Medico-Chirurgical Society.

The following office-bearers have been appointed for session 1913–14:—President: Dr. John Playfair. Vice-Presidents: Dr. G. H. Melville Dunlop, Professor William Russell, and Mr. J. W. B. Hodsdon. Councillors: Dr. H. A. Leebody, Dr. H. G. Langwill, Dr. John Eason, Mr. Alexander Miles, Mr. J. M. Cotterill, Dr. E. F. Armour, Dr. James Wilson, and Dr. J. S. Fowler. Treasurer: Dr. H. Torrance Thomson. Secretaries: Mr. A. A. Scot Skirving and Dr. Edwin Bramwell. Editor of Transactions: Dr. D. Chalmers Watson.

Glasgow Maternity Hospital.

For some time it has been known that the finances of the Glasgow Maternity Hospital have not been in a satisfactory condition. The hospital was founded 80 years ago, and during that time it has been of immense benefit to mothers of the poorer classes and to nurses and medical students seeking a training in midwifery. The work was so hampered by the inadequate accommodation of the hospital that ten years ago the directors decided to erect a new hospital near the same site, retaining the old building to form gynæcological wards. Six years ago the new building was completed, and it forms one of the finest hospitals of its kind in Britain. Unfortunately, for some reason or other the maternity hospital does not benefit from legacies in the same way as other hospitals in the city, and the result is that it has no capital account. The building fund is still nearly £10,000 short, and, what is far worse, the annual income has been for the last few years £3000 short, so that the accumulated shortage for the last few years amounts to £11,000. To clear this off a bazaar was held last week and the opening ceremony was performed by Princess Louise. The total results of the bazaar were £17,003, and it was announced that in addition an anonymous donor had promised the sum of £3000 towards the development of clinical and pathological research in the hospital.

Aberdeen Maternity Hospital.

Since the passing of the National Insurance Act the Aberdeen Maternity Hospital has experienced a reduction in the number of cases. One reason for this, it is supposed, is that medical practitioners are now willing to take on cases which they would not previously have done, being in some measure assured of payment. These cases would formerly have gone to the hospital.

Diphtheria in Aberdeen.

The epidemic of diphtheria from which Aberdeen has been suffering for some weeks has only partially abated. From 59 cases notified the week before, the number rose to 70 last week. Fortunately the disease continues, for the most part, to be mild.

In the suburbs and on Lower Deeside attacks are being notified, and the Banchory Higher Grade School has been closed on account of it.

Aberdeen Royal Infirmary and Town Council.

A point of considerable interest has emerged in connexion with the electric current of the Aberdeen Royal Infirmary and the Aberdeen town council. Requiring electric power for new laundry plant, the infirmary applied for the current to the Aberdeen town council. This, it is understood, has been categorically refused, and the municipal authorities who are concerned with the matter are stated to have imposed conditions which practically render it impossible for the infirmary to obtain from the corporation electricity department the required power. As a matter of economy, in the days before the corporation electric lighting was developed as it now is, the directors of the Royal Infirmary put a valuable electric lighting plant into the institution, thus utilising in some measure the large furnaces needed otherwise for heating, &c., to provide steam for driving the electric lighting plant. Now, it is understood, when the infirmary requires more power than can be generated by the private plant for laundry purposes, the authorities have refused to give it unless under the conditions that lighting current for the institution be also taken from them, thus rendering useless the valuable and useful plant at present supplying the infirmary with light. The attitude of the authorities towards an institution existing so much for the public good as the Royal Infirmary does requires explanation.

Nov. 18th.

IRELAND.

Dental Clinics in National Schools.

AT a meeting of the Council of the Women's National Health Association held in Dublin last week an interesting statement was made by Mr. Lemass, secretary of the Board of National Education, with reference to the attempt by the Board to establish dental clinics in the primary schools in Ireland. In 1911 the Board asked the Treasury for £13,530 to cover the cost of four dental clinics in Dublin, four in Belfast, three in Cork, two in Limerick, two in Derry, and one in each other town of over 9000 inhabitants. In reply the Treasury offered £7500 on condition that an equal sum should be contributed from local sources. After conference with the school managers the Board pointed out to the Treasury that local authorities in Ireland had no statutory power to strike a rate for such a purpose. Further, the Board asked permission to spend the £7500 promised by the Treasury in establishing as a tentative measure dental clinics in a few of the larger towns. The Treasury refused to sanction any expenditure except on the principle of equal contributions from local sources. As a result, only £263 2*s.* 6*d.* was given by the Treasury, an equivalent sum being raised voluntarily in certain localities. For the present financial year an expenditure from the vote of £953 6*s.* 3*d.* has been sanctioned. This is divided among 32 schemes. Over one-third of this money is in aid of schemes promoted by the Women's National Health Association.

The National University of Ireland: A Proposed Degree in Ophthalmology.

At the meeting of Convocation of the National University of Ireland last week a resolution was carried, urging the Senate to establish a degree or diploma in ophthalmology. It is not expected that the Senate will take any action in the matter. If degrees in ophthalmology are established, there seems to be no reason why the medical specialties, such as otology and laryngology, should not be similarly recognised. It was resolved at the same meeting of Convocation to request the Senate to institute lectures for medical practitioners, in order to train them for the work of medical inspection of schools.

Scarlet Fever in Belfast.

Owing to the prevalence of scarlet fever in Belfast it has been decided to give the medical officer of health extra assistance in coping with the epidemic, and also to have a conference with the various medical officers of health (dispensary doctors of the Belfast district) on the question of the outbreak, which is gradually increasing both in extent and in virulence. At present over 500 cases are in the two fever hospitals (municipal and workhouse), a number never equalled before, and the severe septic type of case is also increasing.

Munificent Gift to Belfast University.

Mr. William Gibson, an Ulsterman, who died on Nov. 1st, has left a legacy of £10,000, free of duty, for the purpose of founding certain scholarships to be called the "Gibson Scholarships," in the Queen's University of Belfast.

The Stamping of Meat in Belfast.

The chairman of the markets committee of the Belfast city council, Dr. Henry O'Neill, has been negotiating in order to get the various Belfast institutions concerned to arrange that for the future all meat purchased by contract for their inmates shall bear the official stamp, as a guarantee that it has been examined by a duly qualified inspector and certified as being good for food. There is no legal power to make this stamping obligatory on butchers, but if in the time to come this is made a condition of contract purchase the official stamping will soon become general. Dr. O'Neill, who deserves high credit for his efforts, has now persuaded the following institutions, representing several thousand inmates, to agree that in the future all meat supplied to them shall be branded with the Belfast Corporation abattoir stamp: The Belfast Union Workhouse, Belfast Lunatic Asylum, Royal Victoria Hospital, Throne Convalescent Hospital, Belfast Prison, Belfast Charitable Society, and Purdysburn Fever Hospital.

The Ulster Medical Society.

The annual dinner of the Ulster Medical Society was held in the Medical Institute, Belfast, on the evening of Nov. 6th, Dr. A. B. Mitchell, the President, occupying the chair. After the loyal toasts had been drunk, Sir William Whitla handed over to the Medical Institute, on behalf of the subscribers, a picture of the late Dr. Joseph Nelson, which was unveiled by Dr. J. W. Browne, who gave a feeling account of his old friend. Professor J. A. Lindsay proposed the toast of "Irish Medicine," to which Dr. C. E. Fitzgerald, President of the Royal College of Physicians of Ireland, and Dr. R. D. Purefoy, President of the Royal College of Surgeons in Ireland, responded. Dr. Browne having been handed a certificate of election as an Honorary Fellow of the Society, Mr. R. J. Johnstone proposed "The Guests," to which the Recorder of Belfast and Mr. G. R. Lawless replied. The President's health and that of the honorary secretary, Dr. S. T. Irwin were drunk in conclusion.

Nov. 18th.

Dr. Robert Fells Library
U. S. Medical College
1691

Obituary.

CHARLES McBURNEY, M.D.,

LATE PROFESSOR OF CLINICAL SURGERY, COLUMBIA UNIVERSITY, NEW YORK.

BY the death of Dr. Charles McBurney, which has taken place in Brookline, Massachusetts, the medical profession of America loses one of its most eminent surgeons.

Dr. McBurney was born in 1845. He received his professional education at the New York College of Physicians and Surgeons, now the medical department of Columbia University, where he took his M.D. degree in 1870. He subsequently studied in London and on the Continent at Vienna, Berlin, and Paris. In 1892 he became professor of clinical surgery at Columbia University, retiring from the post in 1907, when he became emeritus professor. He was an admirable teacher. He was not a voluminous writer, but he made many communications to medical societies in the United States and in Europe, and his name is inseparably linked with the subject of appendicitis, for it was he who in a paper before the New York Surgical Society in November, 1889, defined the diagnostic feature in the early stage of appendicitis of localised tenderness on pressure at a point about 2 inches from the anterior superior spine of the ilium on a line from that process to the umbilicus, now universally known as McBurney's point. McBurney's incision, parallel with the course of the external oblique muscle about an inch from the anterior superior spine, also links his name with that disease.

Dr. McBurney was visiting surgeon to St. Luke's Hospital, New York, and was also on the surgical staff of the Bellevue, Presbyterian, St. Mark's, and Roosevelt Hospitals. Among his foreign professional affiliations he was an Honorary Fellow of the Royal College of Surgeons of Edinburgh. The Surgical Society of Paris, the Medical Society of Rome, the Medical and Surgical Society of Constantinople all claimed him as a member. His principal contributions to medical literature, other than those relating to appendicitis, were the article on the Technique of Aseptic Surgery in the International Text-book of Surgery (1899) and a paper, in conjunction with Dr. Allen Starr, of New York, on the Diagnosis, Localisation, and Operation for the Removal of three Tumours of the Brain, which was published in the *American Journal of the Medical Sciences* in 1893. When President McKinley was assassinated in September, 1901, Dr. McBurney was sent for to attend him.

DONATIONS AND BEQUESTS.—The Chelsea Hospital for Women has received from the executors of the late Mrs. Snelgrove, in virtue of their discretionary power, a bequest of £100, also £10 10*s.* from the Skinners' Company.—Mrs. Formby has given £1000 towards the funds of the Monmouthshire Hospital, and the committee has also received £500 bequeathed by the late Rev. R. H. Jackson, who recently died at Clifton. —The late Mr. John Anderson bequeathed £2000 each to the Middlesex Hospital and the New Hospital for Women.—The Royal Lancaster Infirmary has received £500 under the will of the late Mr. Edward Storey.—Subject to two life interests, the late Mr. Edward Farey has left £2000 to University College Hospital.—The late Mr. William Gibson has bequeathed £10,000 to Queen's University, Belfast.—The Merchant Taylors' Company have sent £500 to St. Bartholomew's Hospital, being the first moiety of a grant of £1000.

Correspondence.

"Audi alteram partem.

THE ACCURACY OF CLINICAL THERMOMETERS.

To the Editor of THE LANCET.

SIR,—Your comment on my letter in THE LANCET of Nov. 15th shows me that I failed to make clear the point of my criticism, and I trust that the great importance of accurate records of temperature will induce you to allow further discussion on the subject. I now have records of some 4000 children's temperatures, all taken with "30 second" tested thermometers, and have found that it is necessary to leave the thermometer in place for at least 10 minutes in order to be sure of really ascertaining the existence of pyrexia *in all circumstances*. In several hundreds of cases I have looked at the thermometers at the end of varying periods—e.g., 2–5 minutes, and have found that there was frequently a rise up to 10 minutes. The fact that the thermometer is "standard" does not affect the point. It depends partly on the temperature of the surrounding air and the stillness of it. If this temperature is below 56° F. I do not consider the oral method sufficiently accurate to make the results worth recording, however long the time, unless the mouth be kept closed (for at least 15 minutes), while the neck and cheeks are well covered with a warm "comforter." If the cheeks are very thin, or the child breathes partly through the mouth or has been running in frosty air so as seriously to cool the interior of the mouth, at least 15 minutes is required. With certain people (those with thick cheeks and entirely nasal breathing) the thermometer will record correctly in as little as one minute in a warm, still room. If due care is taken the differences between mouth and rectal temperatures need not exceed 0·2°–0·4°.

But if the temperature is taken in every patient, and under all circumstances, for a short period only, the result will be that pyrexia of over 1° will frequently be missed, and the daily variations recorded will depend mainly on the accidental variations of the mouth and of the environment.

I regret that I am obliged to write the following from memory without verifying the references. Since making my own observations I have found that similar criticisms or warnings to the above have been published by the following well-known clinicians, among others, Professor Sahli, Berne, in "Tuberculin Treatment" and in his System of Medicine; Dr. Marion Pottenger, San Francisco, both in his Text-book on Tuberculosis and in his recent "Tuberculin Treatment."

Dr. F. W. Burton-Fanning and Dr. S. G. Champion gave a careful analysis of many observations in a paper in your journal (for 1903),[1] and so long ago as 1830 John Davy, F.R.S. (Philosophical Transactions, London), drew attention to the need for such precautions as I have suggested. The absence of such precautions has induced many careful clinicians to regard the oral method as worthless.

If tuberculin treatment is to be undertaken we must rely mainly on oral temperatures, and I believe that many of the failures we hear of are due to the non-recognition of repeated reactions, owing to faulty methods of taking the oral temperature. The errors occur more readily with the slighter degrees of pyrexia, yet it is these we need to observe for the purpose.

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[1] THE LANCET, March 28th, 1903, p. 856

Thanking you for your courtesy in inserting this,
I am, Sir, yours faithfully,
Cornwall, Nov. 16th, 1913. MARY H. WILLIAMS.

WORKMEN AND HERNIA.

To the Editor of THE LANCET.

SIR,—In a letter in THE LANCET of Nov. 1st, Dr. A. P. Gibbons takes a pessimistic view of the results of the operation for the radical cure of hernia and criticises somewhat severely the selection of cases by the surgeons of London hospitals.

Like Dr. Gibbons, I have the opportunity of seeing a very large number of cases of hernia every year, but my conclusions as to the value of the *radical operation* are directly opposed to his. After reading his letter I went through the cards of the first 8000 male patients to attend at the City of London Truss Society after Jan. 1st, 1912. The majority of these had not been operated on, and as of course we do not see cured patients at the Truss Society the results have no real statistical value. However, if the number of patients in London with recurrences were really very large, one would expect the percentage of recurrences to patients seen to be much higher than it is.

The results of the examination are as follows: patients, 8000; recurrences, 191; percentage of recurrences, 2·3. Of these 191 recurrences it is noted that 24 were operated on for strangulation; others were severe cases in which an operation had been performed to enable a truss to be worn; some few had suppurated; two were patients in whom the hernia had appeared after an operation for appendicitis and where there was some muscular atrophy, probably due to nerve division; some dozen had been under the care of a surgeon who is known to perform an inadequate operation, and others had been operated on by comparatively inexperienced house surgeons. In many of the cases the men had returned to work within a few days of leaving the hospital. Several of the herniæ had recurred after long intervals of time—in one case 28 years.

Thus of the 191 cases a large number must be discounted before deciding that the radical operation is a failure. Of the same 8000 patients 41 had been operated on on one side without recurrence and presented themselves with a new hernia on the opposite side.

For some years there has been a diminution in the numbers of patients attending the institution, and this has been most marked in the decades in which the operation is most frequently performed.

Age.	1893.	1912.	*Decrease* (per cent.).
Under 1	492	133	72·9
1–10	1085	484	55·3
11–20	578	233	59·5
21–30	1145	489	57·2
31–40	1558	1028	33·3
41–50	1798	1504	16·3
51–60	1630	1479	9·2
61–70	1146	1063	7·2
71–80	424	386	8·9
81–90	36	40	11·1 increase.

This diminution dates from 1895—i.e., about the time from which dates the increasing frequency of the operation. Thus at St. *Bartholomew's Hospital* the operations for the radical cure of inguinal and femoral hernia in 1893 numbered 118, and in 1911 357, a similar increase occurring at all other hospitals. As this diminution is striking in the decades in which the operation is usually performed and runs *pari passu* with the increased frequency of the operation, one is, I think, justified in concluding that the majority of these patients have not only been operated on but cured.

I am, Sir, yours faithfully,
J. E. H. ROBERTS, F.R.C.S. Eng.
Devonshire-place, W., Nov. 12th, 1913.

PROTECTION AGAINST X RAY BURNS.

To the Editor of THE LANCET.

SIR,—Your Paris correspondent last week (p. 1423) calls attention to a device introduced by Dr. Ménard of the Hôpital Cochin which was brought before the Academy of Sciences by M. Moureu, designed to afford a definitive protection against the X rays in the case of operators who have to use the rays for long periods. The essential feature is that the patient and the X ray tube are placed inside a special compartment lined with lead.

In January, 1910, four cabinets of this type came into use in the X ray treatment room at the London Hospital. The working of the apparatus is entirely controlled from outside the cabinets, and a cut out is placed at the doors so that the operator cannot under any circumstances come into the field of the rays. Mr. A. E. Dean put in this installation from the designs of myself and my assistant, Mr. Blackall. Since January, 1910, more than 33,000 exposures have been made with absolutely no risk to the operators. A similar installation has recently been placed in the X ray department at St. Thomas's Hospital. I am, Sir, yours faithfully
JAMES H. SEQUEIRA.
Manchester square, W., Nov. 17th, 1913.

SULPHUR IN GAS.

To the Editor of THE LANCET.

SIR,—I have read with interest the annotation in THE LANCET of Nov. 1st upon the subject of sulphur in gas, and as it is one in which I have been deeply interested for many years, I trust you will allow me to supplement your statement.

The presence of sulphur in purified coal-gas was known quite early in its history, but Dr. Brande was the first to point out that the compound was the bisulphide of carbon. In 1860 the first Act of Parliament was passed fixing a maximum allowable amount for the impurity, and from that time onward large sums of money have been spent in complying with those regulations. The only practicable method of extraction was the so-called lime process which, apart from being very unsuitable, created a good deal of nuisance. When, therefore, a departmental committee presided over by Lord Rayleigh reported that the removal of the carbon bisulphide was unnecessary, the companies hastened to revert to purification by oxide of iron, but, as you correctly state, they have since partially gone back to lime.

Nearly six years ago the chief chemist of the South Metropolitan Gas Company was instructed to investigate *de novo* the whole subject of gas purification, and in the end a process based upon one suggested many years ago by Professor Vernon Harcourt was tried on the large scale. The experiment was successful, and at our second largest works the whole of the gas made there, amounting to about 10,000,000 cubic feet daily, has been for some months past purified from every trace of not specifically given. By Section 65 of the Act, however, the Insurance Commissioners are given power to make regulations for any of the purposes for which regulations may be made under Part I. of the Act, and "generally for carrying this part of this Act into effect," and by Section 15 every Insurance Committee is compelled to make arrangements with medical practitioners in accordance with regulations made by the Insurance Commissioners. Presumably, therefore, anything ordered or authorised by the Commissioners can be done without fear of consequences by the Insurance Committees. Regulations, moreover, have effect as if enacted in the Act. The form of laying them before both Houses of Parliament as soon as may be after their being made does not have to precede their coming into force, although through an address presented within a prescribed period to His Majesty by either House they may be annulled afterwards.

THE ACCUMULATED FUNDS IN LONDON.

In a speech made at the first annual meeting of the New Tabernacle Approved Society Mr. Kingsley Wood, a member of the London County Council and of the National Insurance Advisory Committee, made the suggestion that the fund accumulated through the failure of the London Insurance Committee to allot insured patients who have not chosen their medical attendants should be devoted to establishing a nursing scheme for London. He qualified this to the extent of saying that a portion of the fund might in fairness be distributed to medical men on the panel, and he made observations, which no doubt were fully justified, on the benefits which a nursing system for the care of insured patients might be expected to produce. Medical men, however, certainly will not acquiesce willingly in the appropriation to a nursing scheme, or to any other such project, of money paid under legal compulsion by the working-classes with a view to the remuneration of medical men for their work under the Insurance Act, and any such diversion of funds from their original destination could hardly be sanctioned for London unless a similar diversion were to be authorised equally elsewhere. The question, in short, concerns the medical profession practically throughout the country, and the suggestion made by Mr. Wood appears to be at present merely an idea of his own propounded at a convenient moment to an audience not likely to express dissent. To carry it out would require, it is submitted, the passing of an Act of Parliament with that object.

THE NORFOLK INSURANCE COMMITTEE: THE ALLOCATION OF ACCUMULATED FUNDS.

At a recent meeting of the Norfolk Insurance Committee great satisfaction was expressed at the success which had attended the committee in allocating to the lists of medical men on the panel all the insured who had not exercised their right of choice in the matter. The Medical Benefit Subcommittee referred in eulogistic terms to the cordial coöperation of the medical practitioners who had assisted in effecting the arrangements made with a minimum of friction and inconvenience. The same subcommittee also stated that arrangements had been completed for the working throughout the county of both green and yellow vouchers; that it had secured from the Insurance Commissioners a notification of the provisional allocation to it of a substantial sum in respect of special mileage, that the provision of medical benefit was satisfactory throughout the county, and that the number of practitioners on the panel was increasing. Very few applications had been received from persons desiring to make their own arrangements, these being considered separately on their merits, and in the absence of proper and adequate reasons refused. It was recommended by the Medical Service Subcommittee that its numbers should be increased to five medical men and five insured persons.

APPROVED SOCIETIES AND EXPENSES OF ADMINISTRATION.

The question of the financial adequacy of the provisions of the Insurance Acts is at present occupying the attention of the officials of the Approved Societies, with special reference to the amount, 10½*d.* per member per quarter, allowed for administrative expenses. Even in societies where the closest attention has been paid to economy in administration it has been found very difficult to keep within this limit, and the smaller societies are naturally more affected than the larger. It has been suggested that the raising of the quarterly sum for administration from 10½*d.* to 1s. per head would diminish the difficulty felt, and would not be in any way too large an increase.

THE LONDON MEDICAL COMMITTEE.

At a meeting of the London Medical Committee (non-panel) on Nov. 17th notice was received of the formation of a non-panel association for Deptford. A resolution was passed expressing the opinion that the domiciliary treatment of tuberculous persons, as well as that carried out in local dispensaries, ought to be entrusted, to the fullest possible extent, to practitioners engaged in general practice. Among other resolutions was one suggesting that the newly appointed Non-panel Committee of the British Medical Association should endeavour to obtain an injunction against the London Insurance Committee distributing the medical benefit of unallocated insured persons amongst the practitioners on the panel.

SHOREDITCH MEDICAL UNION.

A special meeting of this society, which includes in its membership the majority of the practitioners resident in the area of the borough of Shoreditch, took place on Nov. 14th at the Metropolitan Hospital, in order to nominate candidates for the Panel Committee about to be elected in the county of London. More than 75 per cent. of the local profession were present. Dr. Major Greenwood, the president, pointed out from the chair that as the Panel Committee would be elected by the London practitioners generally who were on the panel, there was little chance of there being an adequate representation of the local profession in the various constituent boroughs of the metropolis. But the Panel Committee was likely to become the Local Medical Committee for London under the amended Insurance Act, for he thought there was little likelihood of the committee, in the election of which the Metropolitan Branch of the British Medical Association was now engaged, being recognised by the Insurance Commissioners. After some discussion it was decided to nominate three panel practitioners and one non-panel, and the following were unanimously chosen and duly nominated:—Dr. Major Greenwood, Mr. Alban Dixon, Dr. G. E. Froggatt, and Mr. J. H. Porter. The honorary secretary was instructed to send in to the returning officer these nominations, and to say they were chosen at a specially convened meeting of the Shoreditch profession; and to add that it was the opinion of that meeting that, when the nominations in the County of London were published and sent to the electors, after each candidate's name there should be placed the name of the borough he would represent; for if this were done it would be possible for the electors to see that as far as possible all boroughs might have some representation.

THE SUPPLY OF MEDICINES BY MEDICAL MEN TO INSURED PERSONS.

At Halifax a question has arisen and been discussed publicly in the newspapers with reference to a case or cases in which medical men asked to supply medicines instead of giving prescriptions to be made up by druggists, have apparently dispensed without making it clear to the patient that in such circumstances he will be expected to pay for the medicine supplied. A patient has stated that she "had been under treatment by her panel doctor and had complained to him regarding the quality of the medicine supplied by the chemist, and he admitted himself that it was not right." The patient thenceforward got her medicine from the medical man and afterwards received a bill for it amounting to 22s. Apparently someone consulted by her advised her to pay this, which no doubt would be correct advice if it were shown that an arrangement was made to that effect. A lady member of the Halifax Insurance Committee has, however, written to the newspapers stating that in any such circumstances she would advise the patient not to pay and to report the matter to the clerk of the Insurance Committee of the district for inquiry. Mention is here made of the matter because the possibility of such a case occurring at any time is obvious, and because medical men should have their attention drawn to the necessity for making a patient clearly understand that if the practice sanctioned by the Act is departed from at the patient's request it must be also at his expense.

A PROTEST AGAINST A SANATORIUM FOR TUBERCULOSIS.

The Surrey county council and the Local Government Board are, it is stated, being appealed to by residents at Telford, near Farnham, on account of the increase of patients at a private sanatorium in their district due to the treatment of tuberculosis under the Insurance Acts. A memorial complains that patients from other counties are being treated and that these come into contact with the inhabitants by meeting them on the roads, in the post-office, and elsewhere. The protest has secured the support of the Farnham rural district council, and a similar one is said to be in course of being promoted at Crooksbury, where, however, the patients are from Surrey.

THE LATE DR. HORACE DIMOCK.

At a meeting of Cambridge and Huntingdon medical men on Nov. 8th a resolution was passed expressing deep concern at the possibility that no public inquiry will be held into the recent disturbances at Wisbech. A copy of the resolution was forwarded to the Home Secretary and the Insurance Commissioners.

Medical News.

UNIVERSITY OF OXFORD.—The following medical degrees have been conferred:—

D.M.—H. G. Butterfield, Wadham; A. T. S. Sladden, Jesus; and L. T. Burra, University College.

UNIVERSITY OF CAMBRIDGE.—At a congregation held on Nov. 8th the following degrees were conferred:—

M.D.—H. L. Duke, Caius; and P. K. Gilroy (by proxy), Selwyn.
M.B. and B.C.—H. C Attwood and H. J. Couchman, Caius.
B C.—T. G. Rose, St. John's.

The number of medical students who have entered Cambridge University this year is 116. In 1911 the number was 114, and in 1912 110.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of Comitia of the Royal College of Physicians on Oct. 30th and of the Council of the Royal College of Surgeons on Nov. 13th diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon 105 candidates who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Board, and have complied with the by-laws. The following are the names and schools of the successful candidates:—

Charles Sydney Archer, [illegible] Hospital, and Sheffield University; [illegible] Mary's Hospital; Charles Sydney [illegible] University [illegible] [illegible] Sydney Jessie Scott [illegible] Durham University; Cedric Sydney [illegible] William Eric Roper Saunders, St. [illegible]

Bartholomew's Hospital and Durham University; Arthur Edward [illegible] [illegible] Medical College and London Hospital; Leonard [illegible] Sharp, B.A. Cantab., Cambridge University [illegible] ospital; George Douglas Sherwood, B.A. Cantab., Cambridge University and Middlesex Hospital; *Jagannath Vishnu Shirgaokar, Bombay University and Middlesex and Charing Cross Hospitals; Algernon Charles Stanley Smith, B.A. Cantab., Cambridge University and St. George's Hospital; Arthur Joseph Eagleton Smith, Guy's Hospital; Henry James Drew Smythe, Bristol University; Alan Ker Soutar, B.A. Cantab., Cambridge University and St. Mary's Hospital; Thomas Sidney Stafford, Birmingham University; William Allan Stewart, London Hospital; John Weston Stretton, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; William Vere Taylor Styles, L.D.S. Eng., Middlesex Hospital; William Edward Tanner, Guy's Hospital; John William Thomas, Leeds University; Joseph Alexander Tsoi-A-Sue, London Hospital; Frederick Charles Turnbull, M.D. Jefferson, Jefferson Medical College and London Hospital; Chunilal Bhimbhai Vakil, Bombay University and St. Bartholomew's Hospital; Walter Heinrich von Wyss, M.D. Zürich, University of Zürich and University College Hospital; John Glen Wardrop, B.A., University College Hospital; Clement Wheeler Wheeler-Bennett, B.A. Oxon., Oxford University and St. Thomas's Hospital; Charles Eustace Williams, L.D.S. Eng., Charing Cross Hospital; Harold Austin Williams, B.A. Cantab., Cambridge University and University College Hospital; Frederick Edward Saxby Willis, St. Bartholomew's Hospital; Cecil William Wilson, London Hospital; Henry Goodwill Wiltshire, B.A. Cantab., Cambridge University and King's College Hospital; and Herbert Gregory Winter, London Hospital.

* Diploma of M.R.C.S. conferred on Oct. 9th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Primary Fellowship Examination in Anatomy and Physiology, held on Nov. 5th, 6th, 11th, 12th, 13th, and 14th, for which 129 candidates presented themselves, of whom 44 were approved and 85, or 66 per cent., were rejected, the following candidates were approved:—

Robert George Bannerman, M.A. Edin., Edinburgh University and London Hospital; Sydney Guy Billington, M.B., B.S. Lond., Birmingham University; Thomas Jacob Cobbe, M.B., B.Ch., B.A.O., R.U.I., Trinity College, Dublin; Hugh Emile Coleman Collins, University College, Cork; Ralph Marsh de Mowbray, M.R.C.S., L.R.C.P., St. Thomas's Hospital; Ismail Fahmy Diay, Cairo and King's College; Eric Ha[illegible] [illegible] ol University; George William Marshall [illegible] versity and London Hospital; Alfred G[illegible] M.B., Ch.B. Bristol, M.R.C.S., L.R.C.P., Bristol University and St. Bartholomew's Hospital; John Andrew Cairns Forsyth, M.Sc., M.B., Ch.B. Vict., Leeds University and Middlesex Hospital; Henry Hilton Monk Gould, B.A. Cantab., Cambridge University and St. Mary's Hospital; Hugh Ernest Griffiths, St. Bartholomew's Hospital; Ronald Montagu Handfield-Jones and Walter Leopold Holyoak, M.D., B.S. Lond., St. Mary's Hospital; Howard Tomlin Hunter, M.B., B.S. Durh., Durham University and St. Bartholomew's Hospital; Lancelot George Jacob, B.A. Cantab., Cambridge University and London Hospital; Manishankar Khushaldas Joshi, M.R.C.S., L.R.C.P., London Hospital; Thaddeus Julian, M.B., Ch.B. New Zealand, Otago University and Middlesex Hospital; Oswald Robert Michael Kelly, M.B., B.S. Lond., Westminster Hospital and King's College; Robert Kennon, M.B., Ch.B. Liverp., M.R.C.S., L.R.C.P., Liverpool University; William Ayer Lincoln, M.D., C.M. McGill, McGill University and Middlesex Hospital; Edwin Algernon Lindsay, M.R.C.S., L.R.C.P., Middlesex Hospital; Dermot Loughlin, M.B., B.S. Lond., M.R.C.S., L.R.C.P., London Hospital; Peter George McEvedy and Archibald Daniel Marston, L.D.S. Eng., Guy's Hospital; John Clifford Metcalfe, M.B., Ch.B. Leeds, Leeds University; Edward Thomas Campbell Milligan, M.D., B.S. Melb., Melbourne University and Middlesex Hospital; Hickman Walter Lancelot Molesworth, London Hospital; Gerald Thomas Mullally, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Guy's Hospital; Ernest Farquhar Murray, M.D., B.Ch. St. And., St. Andrews University and Middlesex Hospital; George Ernest Neligan, M.A., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., Oxford University and London Hospital; James Michael O'Donovan, University College, Cork; Richard Francis O'Sullivan, M.B., B.S. Melb., M.R.C.S., L.R.C.P., Melbourne University and Middlesex Hospital; John Hawkes Pendered, B.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and London Hospital; George Perkins, Oxford University and St. Thomas's Hospital; James Herbert Rawlinson, M.B., Ch.B. Liverp., Liverpool University; William Hugh Cowie Romanis, B.A. Cantab., and Ahmad Shafeek, M.D. Cairo, M.R.C.S., L.R.C.P., St. Thomas's Hospital; John Colvin Storey, M.B., Ch.M. Sydney, Sydney University and Middlesex Hospital; Arthur Sunderland, Charing Cross Hospital; Douglas George Clutsam Tasker, B.Sc. Bristol, Bristol University; Robert Allez Rotherham Wallace, M.B., Ch.M. Sydney, Sydney University and St. Bartholomew's Hospital; John Richard Menzies Whigham, M.B., B.S., M.R.C.S., L.R.C.P., St. Mary's Hospital; and Maurice Henry Whiting, M.B., B.C. Cantab., Cambridge University and Middlesex Hospital.

Licences in Dental Surgery have been conferred by the Council upon the following gentlemen:—

Rae Haydn Gaverick, Guy's Hospital; and Harold Woodhead Mawson, Leeds University.

MEDICAL BARRISTERS.—The following members of the medical profession have been called to the Bar:—Lincoln's Inn: A. B. Dunne, M.B. Cantab. Inner Temple: L. F. Hemmans, M.B. Durh. Middle Temple: H. T. Treves, M.R.C.S.; and H. W. G. Macleod, M.R.C.S. Gray's Inn: W. Moir, M.D. Aberd; G. E. Oates, M.D. Lond.; G. Sowden, M.D. Brux.; and D. C. Kirkhope, M.D. Glasg.

THE POSITION OF PRISON MEDICAL OFFICERS.—The following resolution was passed unanimously at a small meeting of medical practitioners held on Nov. 18th, at 11, Chandos-street, London, W., to discuss the position of medical officers in His Majesty's prisons:—

> This meeting of registered medical practitioners agrees with the statement of the editor of the *British Medical Journal* that "Prison medical officers are faced with a divided duty, that which they owe to their patients and that which they owe to their official superiors; and that the Home Office has no right to place them in this cruel dilemma." It therefore calls upon the Home Office to cease to require the prison *medical officers to act under the direction of the lay authorities* in professional matters and to abandon the practice of forcible feeding which has proved futile and which is only continued as a punishment.

EPSOM COLLEGE.—Of 11 boys who entered for the first examination for medical degrees at the University of London in July last ten passed in all subjects. The eleventh boy failed in chemistry only. One of the boys gained distinction for chemistry and physics, and another won an open scholarship of £75 at St. Mary's Hospital. Open scholarships, both in arts and science, have been gained this autumn at St. Bartholomew's Hospital by former pupils of Epsom College.

KING EDWARD'S HOSPITAL, CARDIFF.—A meeting of the governors of King Edward VII. Hospital, Cardiff, was especially called for Nov. 14th to consider a proposal to the effect that no one should be appointed to the medical staff of the hospital who was not a Member of the Royal College of Physicians of London or to the surgical staff unless he was a Fellow of the Royal College of Surgeons of England. The motion was defeated by a very small majority after a sharp discussion.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—A meeting of the council of this association was held at 34, Copthall-avenue, E.C., on Nov. 10th, Dr. J. B. G. Gidley-Moore being in the chair. A letter was read with regard to the dispute at West Ham. The medical officers of the union had been induced to submit to the demands of the guardians, and to consent to pay a portion of the expense of the drugs that it was proposed in the future should be supplied by the guardians. At the same time the guardians had consented that the salaries should remain unchanged, so that the future superannuation should not be affected by the payments of the medical officers. Much regret was expressed by the council at the surrender by the West Ham district medical officers of the important principle involved. It was very doubtful whether the future superannuation could be safeguarded in this manner. The Act laid down that the superannuation was to be based on the total emoluments at the time of the retirement; and therefore any payments made by the medical officers to the guardians would have to be deducted from the salaries. The council then took into consideration the Burnley dispute. The honorary secretary, Dr. Major Greenwood, read letters from Dr. A. P. Agnew giving details of the present state of affairs, from which it appeared that the condition of medical relief in the Burnley Union was very unsatisfactory. Only three of the 15 districts had medical officers, and the whole of the medical work had to be performed by three medical officers. The council instructed the honorary secretary to offer the assistance of the association in any way that the local profession might consider desirable. With regard to the appropriation of fees for attendance on panel patients among their employees by the Bethnal Green guardians, the honorary secretary reported that the action of the profession had not been as successful as might be desired. Much regret was expressed by the council, and several members commented on the apathy of a portion of their service in maintaining their rights. In connexion with this matter, the honorary secretary regretted that a distinctly retrograde step had been taken by the National Insurance Act Committee of the British Medical Association in their Poor-law policy. The council then considered the case of one of the district medical officers of the Wigan Union, who had held his office for 21 years. Up to three years ago his duties had been similar to those of most district medical officers, but since then he had constantly received orders from his relieving officer, given on the application of the police, to attend persons in charge of the police at the local police station. After discussion the council were unanimously of opinion that the strongest protest should be made against such an innovation It was hoped that the weighty representations made to the Government by their honorary secretary and by the British Medical Association might be effectual, and Dr. Greenwood was thanked for the care and attention he had given to the matter.

ANTARCTIC MEDALS.—The Royal Geographical Society hr [illegible]
E L Ath [illegible]
surviving [illegible]

THE DISTRICT COUNCIL OF ILFORD AND THE MEDICAL OFFICER OF HEALTH.—Mr. C F Stovin, the medical officer of health of Ilford, in his annual report for 1912, referred to restrictions placed upon his work by the local district council The council thereupon applied to have the sanction of the Local Government Board for the determination of Mr. Stovin's appointment An inquiry was held by a representative of the Local Government Board in July, the result of which was a new set of regulations for the working of the public health department But at a special meeting of the Ilford district council on Wednesday evening last Mr Stovin received three months' notice to terminate his office, on the grounds that he had not observed the new regulations It is unlikely that this action will pass without protest when the full circumstances are known

MIDLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The annual meeting of this society was held at the Medical Institute, Edmund street, Birmingham, on Oct 17th, Dr Edward Malins, the president, being in the chair The honorary general secretary read the annual *report of the society for the session* 1912–13 *The society* at present includes 71 members, constituted as follows Original members, 43; members elected during the past session, 28 Five meetings have been held as under. at Birmingham, three meetings, at Bristol, one meeting, at Leicester, one meeting The average attendance at these meetings was as follows. members, 12 6; visitors, 3 6 At the invitation of the North of England Obstetrical and Gynæcological Society a combined meeting was held with the Edinburgh, Glasgow, and North of England Societies at Manchester, on May 30th and 31st, 1913 The report further stated that the society has arranged with the *Journal of Obstetrics and Gynæcology of the British Empire and* the publishers of the same for the publication of the Transactions for the past year A volume of Proceedings and Transactions has been published, and a copy sent to each member of the society The council pointed out that the proceedings can only be done under the existing annual subscription (5*s*) if the membership of the society is considerably increased The adoption of the annual report and of the financial report was unanimous *The following officers and council were elected to serve for* the session 1913–14 President · Dr Walter Swayne Vice-Presidents · Mr Christopher Martin, Dr Ewen J Maclean, and Mr. H T. Hicks Council Dr Guy J Branson, Dr. Annie Clark, Mr E Tenison Collins, Mr Frederick Edge, Mr J. Furneaux Jordan, Dr Edward Malins, Mr Cecil Marriott, Dr W H Newnham, Mr Miles H Phillips, Dr Thomas Wilson, and Mr. William Smith, Honorary Treasurer. Dr C E Purslow Honorary General Secretary: Mr Beckwith Whitehouse Honorary Local Secretaries Mr D. C Raynor (for Western Counties) and Mr T. C Clare (for Eastern Counties) Dr. Swayne then delivered his presidential address upon the Relations between Universities and Medical Science A vote of thanks to the President for his interesting address was proposed by Dr Malins, seconded by Dr Newnham, and carried unanimously

BOOKS, ETC, RECEIVED.

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Appointments.

Succ [illegible] *lic Institutions,* [illegible] *is column, are* [illegible] *ted to the Sub* [illegible] *orning of each*

BARRINGTON-WARD, L E, Ch M., F R C S Edin F R C S Eng, has been appointed Surgeon to Out-patients at the Hospital for Sick [illegible] appointed [illegible] d Medical [illegible] orth [illegible] has been [illegible] Workshop [illegible] appointed [illegible] tal [illegible] d Clinical [illegible] M R C S, [illegible] the Bristol [illegible] appointed [illegible] t Hospital, [illegible] nt Medical [illegible] the Chest, Brompton

LEY, GORDON, *F R C S Eng has been appointed Pathologist to the* Chelsea Hospital for Women

LO [illegible] appointed Honorary [illegible]

MA [illegible] L R C P Lond, has [illegible] the City of London Lying in Hospital

PATRICK, JOHN, *M B, B Ch R U I, has been appointed Resident* [illegible]

ROS [illegible] mining [illegible]

TUF [illegible] pointed [illegible] lege of Medicine, Newcastle upon Tyne

WHAITE, JOHN HENRY, *M D, B Ch* Dub, has been appointed Medical Officer and Public Vaccinator of the Heavitree District by the St Thomas s (Exeter) Board of Guardians

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

ARGYLE AND BUTE ASYLUM Lochgilphead —Assistant Medical Officer, unmarried Salary £200 per annum, with apartments board, and laundry [illegible]

BATH ROYAL MIN [illegible] Salary £120 per [illegible]

BETHNAL GREEN [illegible] —Second and T [illegible] £120 and £100 [illegible] washing

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES —Clinical Assistant for three months Salary at rate of 52 guineas per annum

BIRMINGHAM *ROMSLEY* HILL SANATORIUM FOR CONSUMPTIVES — Assistant Resident Medical Officer, unmarried Salary £200 per annum with board apartments and laundry

BOLTON UNION, TOWNLEYS HOSPITALS, Farnworth, near Bolton — Resident Assistant Medical *Officer* Salary £170 per annum, with apartments, washing, and attendance

Bradford Poor-law Union Hospital and Workhouse.—Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with rations, apartments, and laundry.

Brecon, Breconshire County Council.—County Medical Officer of Health and County School Medical Officer. Salary £500 per annum.

Bristol Royal Infirmary.—House Surgeon for six months for Throat, Nose, and Ear. Salary £75 per annum, with board, apartments, and laundry. Also Dental House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and laundry. Also Honorary Assistant Physician.

Bury and District Joint Hospital Board.—Assistant Medical Superintendent. Salary £200 per annum, with board, washing, and lodging.

Cambridgeshire County Council.—Tuberculosis Officer. Salary £300 per annum. Also Female Assistant County Medical Officer. Salary £300 per annum.

Cancer Hospital.—Assistant in Chemical Department Research Institute. Salary £200 per annum.

Cardiff, King Edward VII.'s Hospital.—Two Honorary Assistant Physicians. Also Senior Resident Medical Officer. Salary £120 per annum, with board, washing, and apartments.

Carmarthen, Joint Counties Asylum.—Second Assistant Medical Officer. Salary £180 per annum, with board, lodging, washing, &c.

Carshalton, Surrey, Queen Mary's Hospital for Children.—Senior Assistant Medical Officer. Salary £250 per annum, with board, lodging, and washing.

Chester, County Asylum.—Third Assistant Medical Officer, unmarried. Salary £180 per annum, with board, lodging, and washing.

Chester General Infirmary.—House Surgeon. Salary £100 per annum, with residence and maintenance.

Colchester, Essex County Hospital.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

Coventry and Warwickshire Hospital, Coventry.—House Physician. Salary £110 per annum, with residence, board, laundry, and attendance.

Devizes, Wilts County Asylum.—Medical Superintendent. Salary £800 per annum, with partly furnished house, coal, light, washing, &c.

Dorchester, County Asylum.—Third Assistant Medical Officer. Salary £200 per annum, all found.

Dorchester, Dorset County Hospital.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and laundry.

Douglas, Noble's Hospital, Isle of Man.—Resident House Surgeon, unmarried. Salary £100 per annum, with board and washing.

Down County Council.—Assistant Tuberculosis Medical Officer. Salary at rate of £350 per annum.

Dreadnought Hospital, Greenwich, S.E.—Medical Superintendent. Salary £150 per annum, with board, residence, and washing.

Dudley, Guest Hospital.—Assistant House Surgeon for six months. Salary £100 per annum, with residence, board, and washing.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—House Physician. Salary at rate of £75 per annum, with board, residence, laundry, &c. Also Assistant Physician to Out-patients. Also Physician on Staff of Hospital.

East Sussex County Council Education Committee.—Junior Assistant School Medical Officer. Salary £250 per annum.

Edinburgh, Royal Asylum, Morningside.—Assistant Physician. Salary £175 per annum, with apartments, board, and laundry.

Enfield Education Committee.—Ophthalmic Surgeon one half day of two hours per fortnight. £1 per attendance.

Glasgow Maternity and Women's Hospital (Obstetrical Department).—Two Out-door House Surgeons. Also Female Out-door House Surgeon at West-End Branch for three months.

Glasgow, Victoria Infirmary.—Assistant Physician.

Great Yarmouth Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Guildford, Royal Surrey County Hospital.—House Surgeon. Salary £75 per annum, with board, residence, and laundry.

Hampstead General and North-West London Hospital.—Surgeon to the Throat, Nose, and Ear Department.

Hemel Hempstead, West Herts Hospital.—Resident Medical Officer. Salary £100 per annum, with rooms, board, and washing.

Hospital for Diseases of the Skin, Stamford-street, Blackfriars.—Clinical Assistant.

Hospital for Sick Children, Great Ormond-street, W.C.—Casualty Medical Officer. Salary £200 per annum, with luncheon. Also House Surgeon, unmarried, for six months. Salary £30, with board and residence.

Huddersfield Royal Infirmary.—Junior Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

Hull Royal Infirmary.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

India Office, London, S.W.—Dentists for British Troops in India.

Italian Hospital, Queen-square, W.C.—House Surgeon for six months. Salary £60 per annum, with board and residence.

Lancashire Education Committee.—School Medical Inspector. Salary £350 per annum.

Liverpool Eye and Ear Infirmary, Myrtle-street.—House Surgeon. Salary at rate of £80 per annum.

Macclesfield General Infirmary.—House Surgeon. Salary £125 per annum, with board and residence.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester Education Committee.—Assistant School Medical Officer. Salary £250 per annum.

Metropolitan Alylums Board.—Assistant Medical Officers, unmarried. Salaries: Second Assistant Medical Officer, £210 per annum; Third Assistant Medical Officer, £180 per annum, with board, lodging, and washing in each case.

Miller General Hospital for South-East London, Greenwich-road, S.E.—Honorary Assistant Ophthalmic Surgeon.

Milroy Lectures on State Medicine and Public Health.—Milroy Lecturer for 1915.

National Hospital for Diseases of the Heart, Westmoreland-street, W.—Resident Medical Officer for six months Salary at rate of £80 per annum, with board, residence, and washing.

National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury.—Pathologist. Salary £250 per annum.

Newcastle-upon-Tyne and Northumberland Sanatorium for Consumptives, Barrasford, North Tyne.—Resident Medical Officer, unmarried. Salary £250 per annum, with board, residence, and laundry.

Newcastle-upon-Tyne Education Committee.—Assistant Medical Officer. Salary £250 per annum.

New Hospital for Women, Euston-road.—Female House Physician, Two House Surgeons, and Obstetric Assistant for six months. Also Clinical Assistants for Out-patient Department and Assistant Pathologist.

Nottingham General Dispensary.—Resident Surgeon, unmarried. Salary £220 per annum, with apartments, attendance, light, and fuel.

Oxford County Asylum, Littlemore, near Oxford.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

Portsmouth Royal Hospital.—House Physician for six months Salary £80 per annum, with board, &c.

Richmond, Surrey, Royal Hospital.—Assistant House Surgeon. Salary £70 per annum, with board, apartments, and washing.

Rochdale Infirmary.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Rochester, St. Bartholomew's Hospital.—Resident House Surgeon, unmarried. Salary at rate of £150 per annum, with board, residence, and laundry.

Royal Ear Hospital, 42 and 43, Dean-street, Soho, London.—House Surgeon. Salary £40 per annum.

Ryde, Royal Isle of Wight County Hospital.—Radiographer. Salary £40 per annum.

St. Mary's Hospital for Women and Children, Plaistow, E.—*Junior Resident Medical Officer for six months. Salary at rate* of £70 per annum, with residence, board, and laundry.

St. Mary's Hospital, Paddington, W.—Physician in charge of Out-patients.

Sheffield Royal Infirmary.—House Surgeon for six months. Salary £80 per annum, with board and residence.

Smethwick, Cornwall Works Dispensary.—Assistant Medical Officer.

Southampton, Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

South London Hospital for Women.—Female Clinical Assistant.

Swansea Union Workhouse.—Assistant Medical Officer. Salary about £260 per annum.

Taunton, Somerset and Bath Asylum, Cotford.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, attendance, &c.

Throat Hospital, Golden-square, W.—Surgical Registrar.

University of London.—Examiners.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, and washing.

Walsall and District Hospital.—Assistant House Surgeon. Salary £90 per annum, with board, residence, and laundry.

West London Hospital, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry.

West Sussex and Chichester Joint Education Committee.—Assistant School Medical Officer. Salary £400 per annum.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with rations, apartments, and washing.

Worcester General Infirmary.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing. Also Clinical Assistant and Dispenser. Salary £80 per annum, with board, residence, and washing.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Kirkliston, in the county of Linlithgow; and at Milltown, in the county of Kerry.

⁂ The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of *the Proprietors of* THE LANCET.

Births, Marriages, and Deaths.

BIRTHS.

Lindsey.—On Nov. 6th, at Beaumont, Irving-road, West Southbourne, *Bournemouth, the wife of Mark Lindsey,* M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

Dick—Wallace.—At t[illegible] Church, on Nov. 8th, by the Rev. Alexa[illegible]es Reid Dick, M.B., B.C. Cantab., Scarl[illegible] daughter of William Wallace, of 5, Broadlands-road, Highgate, London.

DEATHS.

Bowles.—On Nov. 15th, at Priors Mesne, Lydney, Gloucestershire, Robert Leamon Bowles, M.D., F.R.C.P., late of Folkestone and Upper Brook-street, London, aged 79 years.

Bridgman.—On Nov. 17th, at Streatham, after a long illness, Herbert Arthur Bridgman, L.S.A., L.R.F.P.S. Glasg., formerly practising at Henley, Batley, and Victoria Park, and late District Surgeon, Natal.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HEALTH CONDITIONS IN THE NORTHERN TERRITORY.

THE northern territory of Australia occupies the centre of
t longitude as far as 26°
on of the territory was
in 1911, and a report
untry was issued in the
same year drawn up by Dr. A. Breinl, director of the Australian Institute of Tropical Medicine. This report was noticed in our issue of March 13th. We have now before us the report of Dr. Mervyn J. Holmes, medical officer of health of the territory. Dr. Holmes has lost no

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has actu
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natural
health;
tropical
typhoid
scarlet fever are practically unknown. The diseases which have most influence on the health of the territory are

totally eradicated.

The main portion of the report is concerned with the sanitary condition of Port Darwin. The town itself

THE CASE OF MR. H. T. HAMILTON.

To the Editor of THE LANCET.

SIR,—To the donations already acknowledged (i.e., £61 1*s.* 6*d.*) I have now to add the following: Dr. J. Thoresby Jones, Sutherland-avenue, W., 10*s.* 6*d.*

I am, Sir,

86, Sutherland-avenue, Maida

THE SPREAD OF THE METRIC SYSTEM.

THE Decimal Association has requested us to publish the following, which will be of interest to a considerable number of medical men:—

In the Parliamentary debate of March, 1907, the small majority opposed to the Weights and Measures (Metric System) Bill was obtained in part by the argument that our trade with the East might suffer through suspicion and distrust on the part of our Oriental customers if we

they chose.

The time is soon coming when metric usage, instead of being regarded as a hindrance to British trade with the Far East, will have to be adopted as a necessity in our dealings with China, Japan, and Siam, which have each taken definite steps to establish that system. Already the Advisory Council of China has passed the first reading of a law to that effect, and there are now in Paris two Chinese gentlemen studying at the International Bureau of Weights and Measures the technical details of the subject with a view to completing what is planned.

Japan has for the present four legal systems of weight and measure: (1) the metric; (2) the shaku-kwan; (3) the kujira-shaku; and (4) the British yard and pound. The Government has declared its preference for the metric system by making it obligatory for the services of the customs, excepting a few articles. It is taught in all the

steady increase in metric usage.

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ceded for a
Central Bureau of Standards at Bangkok. It should interest India to know that the Sanskrit element in the Siamese language has proved useful in connexion with the names of the metric units. Siam proposes not to make metric reform compulsory at one and the same time in all parts of the kingdom, but to deal with each province separately at convenient times—a plan which might perhaps be usefully followed by Russia, China, and India.

Russia also, which is now one of the great Powers of the Far East, has adopted the metric system for several purposes, and has announced to the Decimal Association by a recent letter from the Ministry of Commerce and Industry that the metric system is favoured, but has to
control and inspection
165 millions of people.
ible as completing the
e in metric reform, and
n of China, her eastern

This note is mainly devoted to metric progress in Far Eastern countries, but it must not be forgotten that all South and Central America are either metric or tending
is of Great Britain
her notice, and last,
external influence,
ch have gone far in
act with vigour when the
truth declared in 1790 by

every man who can multiply and divide plain numbers." The whole world has now approved his words, and the United States of America are on the way to fulfil them.

A CHEMICAL RETROSPECT.

Sir William Cr
the *Chemical*
street, Londo
has reached us) of the *Chemical News* from the time of its inception up to the year 1909. This journal has now been in existence for 70 years, and under Sir William Crookes's editorship for the greater part of this time, and has served most usefully to record the progress of chemical and allied sciences. The value of the

may be forgotten.
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recent announcement of hi
dency of the Royal Society.

INTESTINAL STASIS.

To the Editor of THE LANCET.

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you will permit me
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1 three years ago.
y experiments and
food, and they all
arrived—viz., that
sicians are much
proof he gives of the

the physiological action of our various foods is studied and known we cannot hope to be able to prescribe such foods as will prevent intestinal stasis. Some, I find, cause not only intestinal but renal stasis, and when the two are combined the strain upon the skin and lungs, as seen in the insensible perspiration, is greatly increased. I sometimes lose as much as 38 ounces in weight during the night from the skin and lungs alone, and occasionally I appear to gain weight without anything having entered the stomach, a mystery which still remains to be solved; but, however it may be explained, it proves that there are other stases in addition to stasis of the intestine, which the physician of the future must study to maintain his reputation as a physician, of which surgeons are rapidly depriving him.

I am, Sir, yours faithfully,
JOHN HADDON, M.D. Edin.

Denholm, Hawick, Nov. 11th, 1913.

A WARNING.

Messrs. J. and A. Churchill ask us to announce that a warrant is out for the arrest of a man who professes to be travelling books for their firm, but who has never been employed by them. He calls on medical practitioners with samples of Messrs. Churchill's books and seeks to obtain orders and payments. Among other names he uses are those of Williams and Longford. He should be detained *while the police are communicated with.*

◆

Ophthalmos wishes to know if there are any special courses on ophthalmology and otology to be held in Wiesbaden during the winter, and if so, what are the fees and names of the clinics.

E. B. R. and Others.—Our correspondents are thanked for messages of congratulation.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Prof. B. Hopkinson: A Method of Measuring the Pressure Produced in the Detonation of High Explosives or by the Impact of Bullets.—Mr. J. H. Jeans: Gravitational Instability and the Nebular Hypothesis.—Mr. B. A. Keen and Mr. A. W. Porter: On the Diffraction of Light by Particles Comparable with the Wave Length.—Prof. R. J. Strutt: Note on the Colour of Zircons and its Radio active Origin.—Prof. W. H. Bragg: The Influence of the Constituents of the Crystal on the Form of the Spectrum in the X Ray Spectrometer.—Mr. W. L. Bragg: The Analysis of Crystals by the X Ray Spectrometer (communicated by Prof. W. H. Bragg).—And other papers.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SECTION OF ODONTOLOGY (Hon. Secretaries—Robert McKay, F. Coleman): at 8 P.M.

Mr. F. St. J. Steadman: Case of Rheumatoid Arthritis Cured by the Removal of Septic Teeth.

Dr. T. J. Horder: Dental Sepsis from the Point of View of the Physician.

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—H. Batty Shaw, John Fawcett): at 5.30 P.M.

Dr. A. M. Gossage and Dr. Braxton-Hicks: Two Cases of Non-cancerous Tumour of the Stomach.

Dr. Newton Pitt: A Calcareous Deposit on a Fish Bone in the Parotid Duct.

Dr. Batty Shaw and Mr. R. Higham Cooper: On a Change in the Pelvis occurring in a Case of Pre-puberal Atrophy of the Testicles

Dr. Percy Kidd: Case of Combined Sclerosis of the Spinal Cord with (?) Dystrophia Adiposo-genitalis. (The case will be shown at 5 P.M., previous to the meeting.)

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, William J. Midelton): at 4.30 P.M.

Dr. F. G. Crookshank and Mr. Lionel E. Norbury: Double Congenital Hip in Twins.

Mr. Philip Turner and Dr. H. Tipping: Case of Mesenteric Cyst Simulating an Intussusception.

Dr. C. E. Zundel: Infantilism associated with Recrudescent Rickets and Tuberculosis.

Mr. W. J. Midelton: Two Cases of Dermatitis Herpetiformis Successfully Treated by Continuous Counter-irritation.

Dr. F. J. Poynton: (1) Osteogenesis Imperfecta; (2) Case for Diagnosis

Dr. Frederick Langmead: Two Sisters with Deformity of Bones and Splenomegaly.

Dr. F. G. Crookshank: Skiagrams of a Case of Dactylar Deformity with Amniotic Bands.

And other Cases.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Dr. E. C. Snow: The Mortality from Phthisis: a Statistical Investigation having Bearing upon the Question of Personal Communicability.

Dr. Hilda Clark: Tuberculosis Statistics: a Note on Some Difficulties in the Selection and Estimation of Facts observed in Modern Clinical Tuberculosis Work.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., Clinical Evening.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND, 11, Chandos-street, Cavendish-square, W.

MONDAY.—2.30 P.M., Status of M.O. and Psychiatry Committee.

TUESDAY.—1 45 P.M., Council Meeting. 3. P.M., General Meeting. Papers:—Dr. E. Faulks: (1) Electrolytic Chlorine Bleach for Asylum Laundries; (2) An Automatic Temperature Regulator for the Continuous Hot Bath.—Adjourned Discussion on Dr. Getting's paper on Asylum Dysentery.

HUNTERIAN SOCIETY, St. Bartholomew's Hospital (Library), E.C.

WEDNESDAY.—9 P.M., Discussion on Migraine (opened by Dr. A. Currie). The following gentlemen will also take part:—Mr. S. Stephenson, Dr. F. Taylor, Mr. C. Wray, and Mr. A. Evershed.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—7.30 P.M., Joint Meeting with Froebel Society for Discussion on the Educational and Psychological Aspect of the Training of Children before School Age.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Discussion on the Registration of Venereal Diseases. The following have promised to take part: Dr. Stevenson, Dr. Blacker, Dr. Cautley, Dr. Maude, and Dr. Dudfield.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. S. E. Dore: Clinique (Skin). 5.15 P.M., Lecture:—Dr. C. Riviere: Common Pitfalls in the Physical Examination of the Chest.

TUESDAY.—4 P.M., Dr. B. Smith: Clinique (Medical). 5.15 P.M., Lecture:—Dr. C. M. H. Howell: Brachial Neuritis.

WEDNESDAY.—4 P.M., Mr. C. Ryall: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. G. W. Thompson: Eye Strain, its Multiform Consequences and Management.

THURSDAY.—4 P.M., Mr. E. R. Carling: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. C. S. Frankau: Subphrenic Abscess.

FRIDAY.—4 P.M., Mr. W. Stuart-Low: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: New Method of Blood-staining.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Pardoe: Genito-urinary Surgery.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: Genito-urinary Surgery.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Pardoe: Genito-urinary Surgery.

THURSDAY.—10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye 5 P.M., Lecture:—Dr. G. Stewart: Syphilitic Diseases of the Nervous System.

FRIDAY.—10 A.M., Dr. Robi[illegible] Operations. 10.30 A.M., Lecture:—Dr. O[illegible] 12.15 P.M., Lecture:—Dr. Bernstein: ([illegible] M., Medical and Surgical Clinics. X [illegible] Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. G. Stewart: Syphilitic Diseases of the Nervous System.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine

WEDNESDAY.—*Out-patient Demonstrations*: 10 A.M., Dr. F. Langmead: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce:

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Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

Brooks).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Wethered: The Febrile State in Pulmonary Tuberculosis.

Cases.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Mr. Hampson: X Rays—Measurement of Dose.

THURSDAY.—6 P.M., Dr. M. Dockrell: Tuberculosis of the Skin—I., Lupus Vulgaris; II., Tuberculosis Verrucosa Cutis; III., Scrofuloderma.

DUATE CLINIC.

-4.30 P.M., Dr. C. E. Lea:

P.M., Dr. Brockbank:

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Exhibition of Medical and Surgical Cases by Honorary Staff.

FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. J. Wharton: Retinitis.

POST-GRADUATE CLINICAL

INFIRMARY.—3 P.M., Dr. B. Hallam: Skin Diseases Commonly Met with

FRIDAY.—SHEFFIELD ROYAL INFIRMARY.—3 P.M., Dr. A. Connell: Common Injuries of Bones and Joints—their Treatment.

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For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 19th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain fall	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks.
Nov. 13	29·12	W.	0·39	53	51	44	44	44	Raining
" 14	29·35	S.W.	0·29	77	53	44	46	46	Raining
" 15	29·64	S.W.	0·10	75	56	43	42	43	Fine
" 16	29·93	S.W.	...	64	54	43	45	47	Cloudy
" 17	30·07	S.W.	...	83	60	46	54	55	Overcast
" 18	30·07	S.W.	0·01	85	59	55	54	56	Overcast
" 19	30·38	S.W.	0·09	70	51	42	41	43	Cloudy

been received:—

Diseases Bulletin,

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mr. H. G. L. Allford, St. Leonards-on-Sea.

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A Presidential Address

ON THE

DEVELOPMENT OF OUR KNOWLEDGE OF THE DISEASES OF THE HEART.

Delivered at the Opening of the Forty-second Session of the Leeds and West Riding Medico-Chirurgical Society on Oct. 24th, 1913,

BY T. WARDROP GRIFFITH, M.D. ABERD., F.R.C.P. LOND.,

PROFESSOR OF MEDICINE, UNIVERSITY OF LEEDS; HONORARY PHYSICIAN, GENERAL INFIRMARY, LEEDS.

[AFTER thanking the members of the society for the honour conferred on him by his election to the presidential chair Dr. Griffith proceeded as follows:—]

INTRODUCTORY REMARKS.

During the last ten or twelve years I have devoted much time to the investigation of the disorders of the circulation by means of those graphic methods which the astuteness—I had almost said the genius—of James Mackenzie has brought within the reach of the profession. Some of the results of my efforts I have ventured to bring before you from time to time, and the way you have received them has encouraged me to hope that you will not consider I am trespassing on your good nature if the same note is recognised in a part of the remarks I have to make to-night.

When one is trying to keep abreast with the pioneer work of others so that one may intelligently admire the architecture of the structure they are raising, or when perhaps one is trying to help forward the work, it may be by the mere carrying of bricks and mortar, it is wise, I think, to turn at the same time to the work of the earlier observers in the same field of labour, to get to know and to appreciate what they have achieved, and so to mark the steps of the progress of knowledge.

I have therefore been paying some attention to the writings of such men as Morgagni, taking that part of his "De Sedibus et Causis" which deals with diseases of the heart, of Allan Burns, and of Corvisart. I have studied with care that volume of Laennec's work on mediate auscultation which deals with the circulatory system, which of course is epoch-making. This has led me to the able works of John Elliotson and of James Hope, and these have been followed by some of the writings of Gairdner, of Balfour, and of many others among the Victorians.

Since the publication of his views as to the circulation of the blood by Harvey in the year 1628 our knowledge of the diseases of the heart appears to me to have progressed along natural lines. There have been the careful recording of symptoms and painstaking observations in the post-mortem room. On the clinical side there came the assistance obtained by percussion, which, though introduced by Auenbrugger, was mainly developed by Corvisart and subsequently by Piorry; then there came the use of the stethoscope, which was not, of course, the beginning of auscultation. On the pathological side, or rather on the side of morbid anatomy—for pathology was largely speculative at this time and not, as in these latter days, wisely or intelligently speculative—there came the assistance derived from histology. This was followed by the invention of the sphygmograph, an instrument very disappointing to those who expected too much from it, and which in this respect is sometimes unfairly judged, and by various instruments for the measuring of blood pressure. More and more, since the invention of the sphygmograph, experimental physiology has come to throw light on the path which clinicians ought to tread. The work of Gaskell on the reptilian heart and of others on the heart of the mammal has been pressed into the work of the clinician; and as a practical outcome of this we have the polygraph and the electrocardiograph. Something has been done by the use of the X rays, and with the perfecting of the orthodiagraph more may be expected.

A brief reference to the work achieved by some of the great men I have mentioned may be of interest.

MORGAGNI.

Giovanni Battista Morgagni, the celebrated professor of anatomy at the University of Padua, was born in the year 1682, and his great work on the Seats and Causes of Diseases appeared in the year 1760. Here we find a wealth of interesting observations made in the post-mortem room.

Cartilaginous and osseous transformation of the pericardium is described; and under the heading of thickening of the pericardium Laubius is credited with having noted an example where the membrane was as thick as a man's thumb. As bearing on what many of us must have noticed—namely a complete obliteration of the pericardial cavity without any history of symptoms during life—he quotes that "assiduous and cautious man, Albertini," as saying that if palpitation and intermission of the heart *do* occasionally occur in this affection, it is in consequence of some associated condition such as enlargement of the heart.

This remark pleased me very much, for I have been in the habit of teaching my students that mere adhesion of the pericardium, even when universal, is a condition which cannot be diagnosed. I have been careful to say that, in making this statement, I have had in my mind an adhesion comparable to that which exists between a postage stamp and the envelope to which it is fixed. When one's skin is dry one can move oneself about within one's garments, and the movement takes place between the skin and the innermost fabric. When, on the other hand, the skin becomes moist, as from exercise, the only difference which occurs is that the movement takes place between the innermost garment and some of the others. So it is with the heart, which will move almost as freely as in the natural state, in what may be termed the outer pericardial sac, formed by the pleura, when the true pericardial sac is completely obliterated. It is when this outer or false pericardial sac is obliterated, when the margins of the lungs are bound down by adhesions and are not able nimbly to compensate by expansion and forward movement for that diminution in the size of the heart which occurs during systole, that the diagnosis becomes more possible, but it is the *outer* adhesions and not the *inner* that we diagnose.

He describes ossification of the mitral valves with narrowing of the aperture and regurgitation, and the remark which follows—namely, "hence the right chambers of the heart are dilated"—is significant, for Allan Burns, writing some 50 years later, does not seem to see any connexion between enlargement of the heart and narrowing of the valvular apertures.

His views on polypus of the heart are sound, and he says that these are formed of the same substance as the crust which is seen on the surface of blood that has been drawn and allowed to coagulate.

Displacements of the heart, contraction of the pulmonary artery, aneurysms of the heart—which to him, however, meant no more than dilatation of one of the cavities—and ruptures all occupied his attention. It is clear that he saw examples both of benign and of malignant endocarditis, an instance of the latter being associated with gonorrhœa, which is a well-known cause of this affection.

He says that intermissions of the pulse may be associated with long life. He notes the appearance of venous pulsation in the jugulars, which was regarded by Lancisi as distinctive of dilatation of the right side of the heart, but which Morgagni said might occur without there being any dilatation. He said, as is most true, that this is easy to distinguish from the pulsation of the carotids, which is very interesting, as I gather that Corvisart thought they might readily be confounded, while Laennec regarded the distinction as easy if care were taken. He even distinguishes between pulsation due to the action of the ventricle and that due to the action of the auricle, for the former is, he says, synchronous with the pulse and the latter is not.

Finally, it is to Morgagni that we owe the first account of a case with an unduly infrequent pulse, complicated with losses of consciousness and epileptic manifestations, and we now know that "my fellow citizen, Anastasio Poggi, a grave and worthy priest," in all probability was afflicted with what we now term "heart-block."

Truly a big man, this Morgagni.

SENAC.

The great work of Senac on the structure of the heart, on its action and on its diseases, was published in the year 1749. It is the second edition to which I have had access. It bears the date of 1783, but it appears to have been submitted to the Royal Academy of Sciences in the year 1773. The dedication, therefore, which is to the King, I take it is addressed to Louis XV.—that is to say, to Louis the "Well beloved," concerning which Royal Surname of Honour it will be remembered that Carlyle says President Hénault takes occasion in his sleek official way to make a philosophical reflection, which I shall not trouble you with.

This treatise by Senac is full of interest. There are many speculations in it as to the causes of the movements of the heart and the orderly contraction of its chambers. He credits the venæ cavæ with contractile power, and considers that they drive the blood into the right auricle. The double impulse or shock which may be experienced by those who either have cardiac disease or suffer from palpitation, and which amounts to this, that one is sensible of the systole of the ventricle and the shock of the semilunar closure, he attributes to the alternate action of the auricle and ventricle.

Looking at this portrait I seem to have before me a man of keen intellect, inscrutable and somewhat sarcastic. I think I should like to know exactly what was in his mind when in the dedication to which I have referred he wrote: "Four kings of your august race have extended to the Science of Medicine the most marked protection; but that which Saint Louis, Charles the Eighth, Henry the Fourth, and Louis the Fourteenth have merely sketched in outline it has been reserved for your Majesty to accomplish."

Within 12 months this same Louis was stricken with his second attack of small-pox, and was lying betwixt life and death in his Château of Versailles. Should supreme unction be administered? "Not unless Dame du Barry leave the palace," said the priests, and Louis did not want her to go—*provided he was going to recover*. Let us pass from this awful scene so vividly pictured for us in Carlyle's great work.

ALLAN BURNS.

The well-known treatise of Allan Burns possesses the merit of conciseness and brevity. It was published in 1809, the year which saw the birth of Gladstone, of Tennyson, and of Darwin.

In this work I note an instance of a pulse beating no more than 11 times a minute. He discusses the possible utility of the inhalation of oxygen in congenital malformation of the heart, but does not anticipate much good from it. He comments wisely on the distinction between pericardial effusion and dilatation of the heart.

He gives an excellent description of mitral stenosis, but regards the condition as congenital, which it probably never is. He describes a case in which there was mitral regurgitation "with a hissing sound as of several currents meeting," audible apparently only to the patient. He mentions the case of a girl aged 16, who died suddenly from aortic disease, and clearly attributes the death to the regurgitation. Finally, I should like to mention his valuable comment on the frequency of great abdominal pulsation without any organic lesion.

CORVISART.

Among those who have contributed to our knowledge of the morbid anatomy of the heart an honoured place must be accorded to Corvisart, whose book appeared in 1806 and was translated into English by Hebb in 1813.

After mentioning the division of the subject he intends to observe, he makes the following pregnant observation: "I cannot disguise one serious inconvenience arising from this arrangement; that of being precluded from treating under the same class on inflammation of the pericardium and that of the heart." From time to time prophets have arisen to tell us that diseases seldom confine themselves to the valves, to the pericardium, or to the myocardium; but that they usually attack two of these or all three with a special incidence on one or the other. This, as we have seen, is no new discovery, but there is great justification for the lesson being retaught from time to time. Corvisart, however, is sound on the subject, for he treats of "carditis" as "a disease which affects at one and the same time the different tissues of the heart."

He makes a greater effort than his predecessors to correlate clinical symptoms with the findings of the post-mortem room. Commenting on the title of Morgagni's work—"The Seats and Causes of Diseases Investigated by Anatomy"—he says he would like to see a treatise on "The Seats and Causes of Diseases by the Investigation of Distinctive Signs, and *Confirmed* by Anatomy," but for this he says "another Morgagni is required."

He appears to have employed percussion as a valuable means of determining the size of the heart. He diagnoses narrowing of the mitral valve, describing "a peculiar rustling, perceptible to the hand when placed on the præcordial region, and which doubtless proceeds from the difficulty which the blood experiences in passing through the narrow aperture." Laennec accords to Corvisart the full credit of being the first to describe this sign, and he gives to it the name of the *frémissement cataire.*

Talking of aneurysms of the heart, he makes it quite clear that he grasps that these, as hitherto spoken of, are not the same as aneurysms of the vessels, and to make this certain he describes a true case occurring in a negro. How strange it is that while this astute observer hesitates to admit syphilis as a cause of aneurysms, he should confidently attribute them to herpes and to itch.

Commenting on the possibility of sphacelus of the limbs being due to aneurysms of the heart and large vessels, he says: "Fabricius Hildanus has induced Senac and Lancisi to adopt this view," but it is clear that he does not agree with these observers. Here we must remember that it was not until the middle "fifties" that the researches of the great Virchow had put the pathology of embolism on a firm basis, and in this way illuminated the connexion.

Again, he says he does not agree with those who would credit heart disease with any part in the causation of cerebral hæmorrhage. We *now* know that between heart disease and cerebral hæmorrhage there is a double bond—that which arises from embolism, and that which, springing from hyperpiesis, leads to the condition in which weakened vessels are at the mercy of a hypertrophied heart. By the superficial resemblance between venereal warts and the fungating masses found on the valves in what we now know to be cases of infective endocarditis, he was led to regard these two conditions as identical.

It is impossible for me to comment more fully on the great contributions to our knowledge of cardiac disease which we owe to Corvisart. With a spice of personal feeling which one can well appreciate, he says in his Preliminary Discourse: "All that has been done and said on organic diseases of the heart since the publication of this work has sufficiently avenged me for the pitiful reproach which has been cast upon me that I saw diseases of the heart everywhere."

Let the thoughtful physician who is interested in diseases of the heart take comfort from these words; he himself will know that he is less likely to diagnose organic disease when it is not present the more he studies the subject. Let the enterprising surgeon also, to whom it may be sneeringly said that a passing stomach-ache means a duodenal ulcer or an offending appendix, or both, take comfort and encouragement from these words, and from other more tangible sources of consolation!

LAENNEC.

That great exponent of auscultation, Laennec, was born in 1781 at Quimper; he was a pupil of Corvisart; he became chief physician to the Necker Hospital in 1816, and died of phthisis in the year 1826 at the early age of 45. His great work on Mediate Auscultation was published in 1819. It is to the third edition, edited after his death by his cousin Meriadec Laennec in 1831, that I have had access.

Laennec was not the first to conceive of the possibility of using the ear to diagnose the diseases of the body, nor did he invent the art of auscultation. There is a familiar quotation from Hook in his "Method of Improving Natural Philosophy," written in 1705, which runs thus: "Who knows but that, as in a watch we may hear the beating of the balance, and the running of the wheels, and the striking of the hammers, and the grating of the teeth, and multitudes of other noises; who knows, I say, but that it may be possible to discover the motions of the internal parts of bodies, whether animal, vegetable, or mineral, by the sound they make; that one may discover the works performed in the several offices and shops of a man's body, and thereby discover what engine is out of order"? He also says: "I have been able to hear very plainly the beating of a man's heart."

"The motions of the heart," says Corvisart, may be heard, if we can believe some authors, at a considerable distance. I have never myself heard these beatings far off, but by attentively listening near I have often heard them very distinctly." Burns describes a case of a Dr. Brown, to which I have already referred, where, in association with mitral disease, there was a hissing sound which was attributed by Rutherford to the regurgitation of blood.

Laennec stands out not only as the inventor of the stethoscope, but as the man above all others who has been the means of bringing the art of auscultation to its present degree of perfection.

Now, it is a remarkable thing that the employment of auscultation should have led Laennec to the enunciation of a grave cardiac heresy. He correctly attributed the first sound of the heart to the contraction of the ventricles, but he fell into the mistake of attributing what we know as the second sound to the contraction of the auricles. This, of course, involved the further fallacy—namely, that the pause of the heart followed the contraction of the auricles and not that of the ventricles.

This doctrine remained unchallenged for nine or ten years, till Turner, of Edinburgh, supported by the authority of the older physiologists—Haller, Harvey, and Lancisi—as to the sequence of the contraction of the chambers of the heart, and by his own observations on the pulse in the jugular veins, pointed out that the ventricular contraction came after that of the auricles, and that therefore the sound which was heard just after that attributed to the ventricles must be due to some cause other than the contraction of the auricles. It was, I think, reserved for Dr. James Hope to clinch, by a remarkable series of experiments conducted in 1830 and 1831, the accuracy of the views of Turner, but, like the gallant Englishman he was, he yielded to Bouillaud and Rouanet the credit of showing that the second sound is due to the closure of the semilunar valves.

In a eulogy on the work of Laennec, Hope says it is remarkable how little this great fallacy vitiated the conclusions which he drew. This is indeed the case, for he diagnosed mitral stenosis, as we do, on the presence of a diastolic bruit leading off from the second sound, or as he thought replacing it. *We* know that this bruit is due to the vigorous flow of blood into the ventricle on the cessation of its contraction, and before the auricle enters into systole; *he* attributes it to the auricle driving the blood through the narrow aperture. *We* know of course that this active contraction is the cause of that bruit which is nearly always cumulative and crescendo in character, which runs right up to the first sound and is commonly described as presystolic, which it *usually* is, and auriculo-systolic, which of course it *always* is.

His description of the bruit de soufflet, the bruit de râpe, and the bruit de scie in the heart and arteries will stand for all time. At first he attributed these to organic lesions, such as narrowing of the orifices and roughening of the arterial walls; and he appears to have narrowly escaped giving the correct explanation in consequence of encountering two difficulties—first, he was puzzled by finding these sounds present when the heart was apparently normal; and, in the second place, he appears to have been unduly influenced by the experiments of Erman of Berlin, on the sounds produced by a contracting muscle. In this way he entirely failed to grasp that regurgitation through an orifice would cause a bruit, though, as we have seen, this was known to Burns.

He describes with accuracy the sound we know as a cardio-pulmonary bruit, and correctly explains that it is due to the movement of the air in the lungs caused by the movements of the heart. He refers tentatively to the possibility of there being a frémissement in the internal jugular vein, which we now recognise with certainty.

His distinction of the true intermissions from the false is in full harmony with our present views. He describes a form of intermittence where after the second sound—which we must remember is attributed by him to the contraction of the auricles—he hears the *auricle contract several times*. One might think he was here describing a case of heart block; but it is clear that these sounds were due to one or more extra systoles of the ventricle in which each extra systole was responsible for one or two sounds, according as it did *not* or *did* open the aortic semilunars.

Both he and Corvisart regard hypertrophy of the heart as a disease; this, of course, it never is. Hypertrophy is an honest effort on the part of the heart to do the extra work which is required of it; a hypertrophied heart is sinned against rather than sinning. Thus Laennec says: "As for ossification of the valves, aortic or mitral, and excrescences placed upon them, for the most part they do not trouble the health until they arrive at such a stage as to cause hypertrophy and dilatation of the ventricles"; and yet he does not see the fallacy of attributing the symptoms to the conservative development of hypertrophy.

His description of the different signs which are produced by hypertrophy of the right and the left ventricle respectively are admirable; and I sometimes think we are apt to overlook the commonsense view of the differences, which it is natural to suppose there *would* be, between enlargement of the right and left sides of the heart.

One cannot rise from a study of the work of Laennec without being impressed by its splendour and without feeling "this was the greatest Roman of them all."

ELLIOTSON, HOPE, CORRIGAN, AND BALFOUR.

In 1829 and in 1832 respectively there appeared the Lumleian lectures of John Elliotson and the treatise on the diseases of the heart and great vessels by Dr. James Hope. The former follows Laennec in his views as to the sequence of the contraction of the cardiac chambers. The great credit of the latter is that he demonstrated their inaccuracy. He also appears to me to state what is actually the modern view of the "*veine fluide*" in regard to the production of bruits as follows: "The mitral and tricuspid valves, instead of opening into tubes of their own dimensions, as in the case of the aortic and pulmonary orifices, open generally with more or less infundibuliform projection, into spacious cavities; and as the blood, on its delivery, must diverge to fill these cavities, it forms in this act various whirls, eddies, and counter-currents which I conceive to be the cause of the sound."

Probably there is no name more familiar to the student than that of Sir Dominic Corrigan, and this of course on account of the jerky pulse which is named after him and which indicates regurgitation through the aortic valve. His paper appeared in the *Edinburgh Medical and Surgical Journal* on April 1st, 1832. The title of the paper is "On Permanent Patency of the Mouth of the Aorta, or Inadequacy of the Aortic Valves," and he says in introducing the subject: "The disease to which the above name has been given has not, so far as I am aware, been described in any of the books on the diseases of the heart." Now in this he is not accurate. Corvisart gives an excellent description of a case in which the aortic valves were diseased in such a way that there must have been both stenosis and regurgitation. Both Bertin and Laennec describe the shrinking of the aortic valves with the rolling up of the segments, sometimes towards the ventricle and sometimes towards the artery, a condition necessarily associated with insufficiency of the valve. If it be argued, as indeed it may, that none of these writers specifically mention that the valve was incompetent, and that *herein* lies the originality of the observation of Corrigan, the case mentioned by Burns must be brought forward in which death is explicitly attributed to the regurgitation.

It was Corrigan, however, who first pointed out the characteristic features of the pulse in cases of aortic regurgitation. The exact cause of the phenomenon, described with perfect accuracy by this distinguished observer, has in my opinion been grievously misstated by most writers; but a discussion of their views must not detain me now.

Probably there is no better book of its kind, and certainly no more honest book, than that which was written in 1876 by Dr. G. W. Balfour, of Edinburgh. Balfour, who was an uncle of Robert Louis Stevenson, died in 1903 at the age of 81. He brought out a third edition of his book in 1898, and only a few years before his death, being, like Alan Breck, a "bonnie fechter," he came into the arena to support his well-known view that it is *common* for the dilated left auricle to be felt to pulsate towards the inner end of the second left intercostal space, and that many of the systolic bruits audible in this area, which he refers to as the region of cardiac romance, are of mitral regurgitant origin and are transmitted to the surface through the medium of the left auricular appendix. Dr. John Cowan has lately shown me a tracing which would appear to indicate pulsation due to the left auricle at the inner end of the second left interspace. I am convinced, however. that pulsation at this spot is due in the overwhelming majority of cases to conditions apart from direct auricular action. In my opinion, the larger the left auricle is, the less likely are we to be able to detect it either by palpation or by percussion; and for this reason—namely, that the very conditions which cause enlargement of the left auricle, such as mitral stenosis or mitral regurgitation, are precisely those which also cause enlargement of the right ventricle, whose conus arteriosus completely buries the left appendix. Upward increase of the cardiac dulness to the left of the sternum therefore is due in most cases to the enlarged conus arteriosus, and never, in my opinion, to enlargement of the left auricle.

THE POLYGRAPH.

Though the venous pulse in the neck has been recognised for more than 200 years, and, as we have seen, Morgagni discriminated between auricular and ventricular influence in its production, it was not, I think, till the year 1863 that Bamberger and Marey obtained tracings of this pulse. Though there have been many workers in the field since then—and among these may be mentioned my old teacher in anatomy, Sir John Struthers, who did good work on the valves in the veins at the root of the neck—it is to James Mackenzie that the credit must be given of having brought the routine examination of the jugular pulse to its present state of utility in the study of cardiac disease. By means of his polygraph he takes, as you will remember, simultaneous tracings from the radial pulse and from the pulsations over the situation of the jugular bulb, which usually gives a record of the carotid pulse as well.

[The use of the polygraph was then explained; the significance of the *A*, *C*, and *V* waves was dwelt upon. The occasional presence of an extra diastolic wave, as described by Hirschfelder and A. G. Gibson, was mentioned; and the method of estimating the conductivity of the bundle of His by the length of the *A-C* interval was detailed.]

It will be noted that by the limited use of the polygraph I have described, we are comparing the times of contraction of the *right* auricle and the *left* ventricle, and that the conclusions I have asked you to agree to are therefore based on the assumption that the two auricles and the two ventricles contract simultaneously. Into the evidence that this is the case I need not enter. There may be exceptions, but they do not interfere with the conclusions I have to draw this evening.

THE ELECTROCARDIOGRAPH.

The investigation of the action of the heart by means of the electrical currents which are produced by its contraction has proved so fertile in result that I should like to lay before you the principles on which this method is based.

[The electrical changes occurring in a muscle over which a wave of contraction passes were described, that part of the muscle where active contraction was going on being relatively negative to the portions at rest. The current thus generated could be demonstrated by the galvanometer and by the rheostatic frog experiment. The observations of Kolliker and Müller in 1856, of Augustus D. Waller, and of Bayliss and Starling were also referred to. The application of these principles in the string galvanometer of Einthoven of Leipzig was then explained, and some records from the published works of Dr. Thomas Lewis were shown on the screen.]

There is no one in this country to whom we are more indebted for a knowledge of what can be learned from the use of the electrocardiograph of Einthoven than Dr. Thomas Lewis, who has been working at the research laboratory attached to University College, London, and in direct communication with the wards of the hospital. I trust the time is not far distant when, under the supervision of Professor Birch, we may have an installation at the medical school of our University in good working order and in electrical communication with the wards of the infirmary, by means of which the action, the irregularities, and the other vagaries of the hearts of our patients may be registered with accuracy.

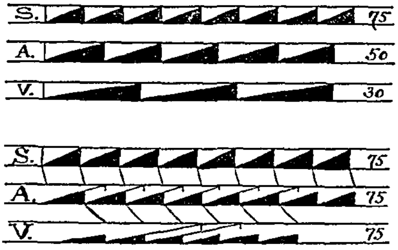
The results obtained by the string galvanometer confirm those obtained by the use of the polygraph as to the relative time of the contraction of the auricles and the ventricles, but they go further than this. Although the primitive cardiac tube has in the course of its development lost much of its pristine character and is wonderfully distorted in adaptation to its function, yet the part where the contraction of the heart begins and the course of the wave of contraction can be demonstrated. The position where the different varieties of premature contractions arise can be, in great part, determined; and it has been the means of proving that the commonest form of cardiac failure—that, namely, which is accompanied by the presence of complete arrhythmia of the organ — is associated with fibrillary contraction of the auricle. Not only can the precise time and duration of the various events be gauged, but the tension of the filament may be so regulated that a deviation of one millimetre on the photographic plate corresponds to a current of 1/10,000th of a volt.

THE CARDIAC RHYTHM.

Before bringing to your notice some of the results obtained by the use of these two instruments in disordered conditions of the cardiac rhythm (and perhaps I may be allowed to say that all the polygraph tracings I shall show are the result of my own work), I must remind you that it is held, and has, I think, been well established, that all parts of the heart are capable of building up stimulus and contraction material; that when this material reaches what I may term the flash-point all the contraction material is exploded in that portion of the heart; and that immediately thereafter the bankrupt cardiac tissue begins afresh to build up stimulus and contraction material.

Now the rate at which stimulus and contraction material is built up varies in the different portions of the heart, and it may be that, apart from this, the flash point is more rapidly reached in one part of the heart than in another.

Experiments on the same principle as the Stannius ligatures show that in the case of the heart of the reptile each of the three parts of which it is composed—namely, the sinus, the auricle, and the ventricle—continues to beat when it is cut off from the influence of the other portions, and that the rate is different in the case of each. There are many considerations which lead us to believe that the same thing prevails in the heart of the mammal.



[illegible]

In the upper of the two diagrams (see figure) shown on the screen I have assumed that we have a heart which in the region of what corresponds to the sinus of the reptile—that is, about the junction of the superior vena cava and the auricle—is building up its stimulus material at such a rate that the flash point is reached 75 times a minute; that the auricle is doing the same at the rate of 50 times a minute, and the ventricle at the rate of 30 times a minute. But in the normal condition the different chambers of the heart are not left to themselves; whenever a contraction occurs in the region of the sinus it is with great rapidity transmitted to the auricle, which, as the second diagram shows, contracts before its stimulus material had reached its own specific flash point. The contraction of the auricle originates a stimulus which is transmitted by the bundle of His, taking an appreciable time, to wit, about one-tenth to one-sixth of a second, to cross the bridge. The magazine of explosive material which is accumulating in the ventricular muscle is therefore discharged long before its own flash point is reached; it immediately begins afresh to lay up a new supply of explosive material, which is again ignited by the next message from the auricle.

Clearly, therefore, that part of the heart which builds up its stimulus material most rapidly, or where the flash point is soonest reached, will be master of the situation and will set the pace for the whole heart. In the mammalian heart this part is at the junction of the superior cava with the base of the appendix of the right auricle; at the beginning of each successive beat of the heart this part becomes electrically negative to all other parts of the cardiac musculature. Here, therefore, the contraction begins; it is the peacemaker, and as *it* pipes so must the rest of the heart dance under ordinary circumstances.

CONCLUDING REMARKS.

[After a series of tracings had been thrown on the screen to illustrate the different forms of cardiac irregularity Dr. Griffith concluded as follows:—]

The observations I have ventured to bring before you may serve to show the lines on which cardiac investigation is progressing. These modern methods should in no wise be regarded as taking the place of the older methods. Rather they should stimulate us to the more thorough investigation of symptoms and signs, and to the more careful study of the appearances found in the post-mortem room.

The most valuable indication of the capacity of a heart for work is clearly what it can do; and one of the best instruments for determining this is a staircase! If there is anything wrong with the valves of the heart salvation must depend on the condition of the cardiac muscle. The capacity of the heart muscle for work depends, however, upon its five functions of rhythmicity, excitability, conductivity, contractility and tonicity. These are the five links in the chain of cardiac integrity. If we can subject the heart to an examination as to its condition in respect of each of these functions we may be able to discriminate between forms of cardiac failure, which, though apparently identical, are really distinct; and it may be that in the future these causes may call for different forms of treatment and not call in vain.

This will be a sufficient answer to anyone who may be disposed to ask, "What is the good of all this?" It will not be necessary to fall back on the mathematician's toast: "Here is to pure Mathematics—and may they never be of use to anyone"; for Michael Faraday has supplied a better answer. He had just delivered one of his popular lectures, dealing, as he alone could, with some of the problems of electricity. At the end of the lecture a lady said to him: "Yes, Mr. Faraday, this is all very interesting and curious; but pray what *use* is it all?" "Madam," said Faraday, "what is the use of a baby?"

And now, Ladies and Gentlemen, it only remains for me to thank you for your kindness and for your great patience. Perhaps I might be thought guilty of exaggeration if I were to exclaim—

> "Joy, joy for ever! My task is done;
> The gates are passed, and Heaven is won."

Certainly it would at this stage of the session be premature; for it is written, "Let not him that girdeth on his harness boast himself as he that putteth it off."

My present frame of mind may best be understood by you if I remind you that in the old days, before the opening of the great bridges over the Tay and the Forth, the traveller from the north who desired to reach the south by the East Coast route, and avoid the circuitous journey by Perth and Stirling, had on reaching the Tay to leave his train and cross that estuary into a crazy ferry boat. He then had to get into another train and traverse the Kingdom of Fife, after which a similar, but longer and more exposed, crossing had to be made of the Frith of Forth, before even Edinburgh was reached. One raw day in the month of March there arrived at the Waverley Station an English traveller, haggard, and bearing the marks of privation and of exposure. He hailed a porter and asked when the train for the south was due to leave. The porter, knowing what was expected of him from a study of all the English guide books to Scotland, replied of course by asking another question. "*Hoo far are ye goin'?*" "Oh!" said the traveller, "I am going to China; but thank goodness the worst of the journey is over."

ABSTRACT OF

The FitzPatrick Lectures

ON

ASTROLOGY IN MEDICINE.

Delivered at the Royal College of Physicians of London,

BY CHARLES A. MERCIER, M.D. LOND.,
F.R.C.P. LOND., F.R.C.S. ENG.,
LATE PHYSICIAN FOR MENTAL DISEASES, CHARING CROSS HOSPITAL.

LECTURE I.

Delivered on Nov. 6th.

Dr. Mercier said that the position of astrology among the sciences was unique.

THE DECAY OF ASTROLOGY.

Its origin was so remote as to antecede all written records: it had formed an important part of the life of every nation that had advanced beyond barbarism; it had been studied with enthusiasm for thousands of years in succession by the Egyptians, the Indians, Chinese, Arabs, Jews, Babylonians, Chaldeans, and European nations, and had engaged the greatest intellects of every age. It had been a necessary part of knowledge for every educated man, and its terms formed part of every existing European language—he cited as instances the words consider, disaster, exorbitant, in the ascendant, under a lucky star, martial, saturnine, jovial, mercurial, Saturday, Sunday, and Monday, lunatic, and venereal disease, which was cured with mercury. These terms were all that remained of a once paramount science and art formerly authoritatively held essential to the proper practice of medicine. Astrology was now utterly extinct. Its decay began at the Renaissance. It languished during the seventeenth century, the last man of high distinction who then practised it being John Dryden, and its death-blow was given by the biting humour of Jonathan Swift. Sir Walter Scott had used its terms in one of his novels, and there had been no commentator of sufficient knowledge to expose his blunders.

Such a record was without parallel in the history of human endeavour. Only two subjects offered any approximation thereto. The first was alchemy, which included chemistry, though its chief ends were the discovery of the philosopher's stone, wherewith to effect the transmutation of metals, and the elixir of life. But the transmutation of metals, an object of scorn for many years, was now in sight of success. Certain elements were now transmuted, or transmuted themselves, and one at least of the elements known to the ancient alchemists was now made in the laboratory; while the elixir of life within recent times had been discovered by one eminent physician in orchidian extract, and by another in sour milk!

A nearer parallel to the fate of astrology was to be found in Aristotelian logic, which was formerly cultivated with the same universality and fervour as astrology, and was of old time equally an essential knowledge for the practitioner of physic. It had now fallen into neglect and contempt well-nigh as universal as its former cultivation, but, unlike astrology, it was not extinct. The lamp of astrology had utterly gone out, but the expiring flame of logic still flickered precariously in some of the dark places of the earth.

It was because the long sleep of medicine through so many centuries was due in no small degree to the shackles of astrology and of the humoral pathology which astrology countenanced and corroborated, that he thought it proper to bring before the College the elementary principles of astrology and the mode of their application to medicine.

THE MAIN FACTORS IN ASTROLOGY.

The main factors in astrology were the signs of the zodiac, the seven planets, and the Houses of Heaven. The word "house" had two meanings—it signified a twelfth part of the heavens, and that sign of the zodiac appropriated to a particular planet, which was its "lord." In medical astrology also must be considered the four elementary qualities, heat, cold, dryness, and moisture, corresponding with the four elements, fire, earth, air, and water, and the four humours, blood, phlegm, yellow bile, and black bile. The possible numerical combinations of 12 signs, 7 planets, and 12 houses were obviously multitudinous, and since many combinations depended on vague and arbitrary considerations it was hardly surprising that scarcely any two astrologers should so combine them as to draw the same conclusions from the same disposition of the heavens.

Each zodiaca
certain special
in general an. ...

to the moment of his birth, according to his complexion, disposition and temperament, and the place in which he lived; also at certain times of life. Each sign and planet had its own elementary qualities, being hot and dry, cold and moist, and so forth, and had special power over some particular part of the body and faculty of the mind. These powers were reinforced and diminished in innumerable ways.

The Signs of the Zodiac.

Dr. Mercier then described the 12 signs of the zodiac in "triplicities" or sets of three according to their several qualities or properties.

The first triplicity—Aries, Leo, and Sagittarius—controlled the hot and dry complexion, the yellow bile humour, the male sex, the day hours, and the period of youth; their lords were Sol by day and Jupiter by night. The second triplicity—Taurus, Virgo, Capricornus—controlled cold and dry, black bile, the female sex, the night hours, and decrepitude; their lords were Venus by day and Luna by night. The third triplicity—Gemini, Libra, Aquarius—controlled hot and moist, sanguine humour, male sex, the day hours, and childhood; their lords were Saturn by day and Mercury by night. The fourth triplicity—Cancer, Scorpio, Pisces—controlled cold and moist, pituitary humour, female sex, the night hours, and middle life; their lords were Venus by day and Mars by night.

The signs also influenced the parts of the body as follows: Aries the head, Taurus the neck and shoulders, Gemini the arms and hands, Cancer the chest, Leo the heart and cardiac end of stomach, Virgo the intestines, stomach, and umbilicus, Libra the kidneys, Scorpio the genitals, Sagittarius the hips, Capricornus the knees, Aquarius the legs, Pisces the feet.

The Planets.

Only seven planets were known when astrology was in vogue, and they were always enumerated in the following conventional order, the origin of which is obscure: Saturn, Jupiter, Mars, Sol, Venus, Mercury, Luna. With respect to most, not all, things they exercised a regulative influence, and with regard to some a causative one. Thus, Guy de Chauliac attributed the "Black

jurisdiction over particular things, such as some region of the body, sense, faculty, part of the mind, bodily configuration and mental temperament, time of life, peculiar diseases, and mode of death. The several animals, metals, plants, odours, were also dominated by particular planets. Dr. Mercier then detailed a number of instances of the various objects ruled over by the different planets.

Planets were either benevolent or malevolent in character. The benevolent planets were Jupiter, Sol, and Venus; the malevolent ones, Saturn, Mars, and Luna; Mercury was variable, having little character of his own, but reinforcing the benevolence or malevolence of whatever planet he might be in aspect with—that is, whose rays converged at one or other of certain definite angles to the point on earth that formed the scene of the planetary action. These premisses being granted, it was evident that the course and termination of every malady in a sick person depended on the relative power with respect to other planets of the particular planet or planets having jurisdiction over the matter. They depended on the

ment,

particular disease, the time of life of the patient, over his nativity, and so forth. Thus, all the seven planets might be influencing the disease and the sick person in different directions at once, some pulling towards health, some towards death. All the relative potencies of the planets under different conditions and in different relations to the others therefore had to be taken into account.

The power of a planet at any given moment depended on (1) the sign of the zodiac in which it was then situated; (2) that of which it was lord; (3) that in which it "rejoiced"; (4) those in which it ascended and descended; (5) the house in which it was situated; (6) that in which it rejoiced; (7) the position or aspect of the planet towards other planets; (8) the planet's aspect towards the ascendant; (9) the motion of the planet, fast or slow, direct or retrograde; and (10) the day and hour. Further, the estimation of these powers depended largely on the Houses of Heaven in which they chanced to be situated at the time.

The Houses of Heaven.

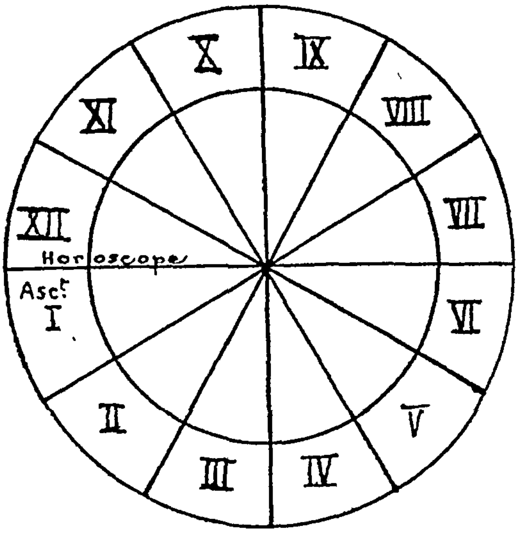
Dr. Mercier then described these houses. The arc of the heavens, viewed from any point on the earth's surface, consisted of two quarters of a circle comprised respectively between the eastern and western horizons and a vertical meridian to the zenith. The arc of the heavens below the earth similarly consisted of two quarters divided by the nadir. If we imagined, he said, each of these fixed quarters of heaven to be subdivided by three equidistant meridians the heavens would then be divided into 12 parts, six above the horizon and six below, whose contents were continually changing, for the planets occupied them all in succession as they appeared to rise in the east and set in the west, completing their revolution below the earth. These 12 divisions were the 12 Houses of Heaven.

The house immediately below the eastern horizon, so that the stars therein were next to rise above the horizon, was the first house, or ascendant. It was the principal and most powerful house, and the planets occupying it chiefly determined the fate of the native. The rest of the houses were known by numbers in order reverse to the movement of the hands of a clock. The second and third were between the ascendant and the lower vertical meridian (nadir); the fourth, fifth, and sixth between that and the western horizon. These houses were below the earth. The seventh, eighth, and ninth occupied the western quadrant, and the tenth, eleventh, and twelfth the eastern quadrant, above the earth.

The anterior boundary of each house—i.e., the meridian which the stars in that house must cross next—was its cusp, and from the cusp the position of the planets in the house was measured in degrees and minutes. The cusp of the ascendant was called the horoscope, and Dr. Mercier here called attention to the inaccuracy of the common phrase, to "cast a horoscope." What was meant by the expression was the casting of a "nativity," or "geniture"—i.e., the setting out on a plan of the Houses of Heaven the position of the signs of the zodiac and of the planets in the respective houses that they occupied at the moment of birth. Similarly, we might cast a decumbiture—i.e., set out a similar plan for the moment at which a disease began; and such an operation was as frequent in the daily routine of an old-time physician as is now the record of the name, age, and dwelling of the patient.

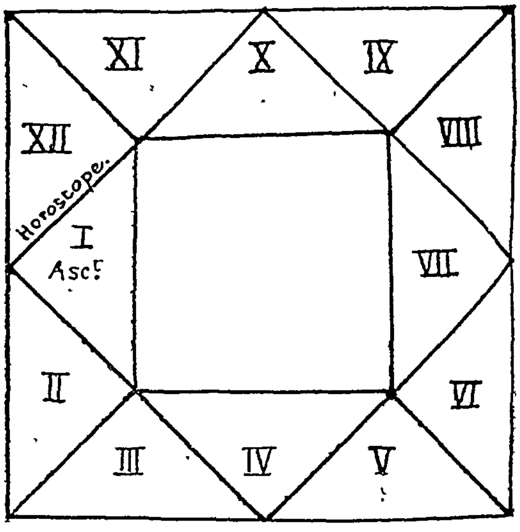
Diagrams on the wall showed the two methods or schemata of houses, on which the position of the signs and planets were set out at the particular time at which the inquiry was made, just as now we had figures of the chest and other parts of the body upon which the various morbid signs existing were noted. The circular method was the best and most obvious, the rectilinear method being probably due to the fact that circles were not so easy to draw as lines. (Figs. 1 and 2.)

FIG. 1.



The chart for dividing the heavens into the twelve houses. The horizontal line represents the surface of the earth at any spot; the arc above it the visible heavens divided into two quadrants of 90° each. Each quadrant is divided into three houses of 30° each. The same process takes place for the under side of the earth. The positions in these two arcs of the signs of the zodiac and the planets are computed astronomically for the time of the figure and marked in on the chart.

FIG. 2.



A rectangular form of Fig. 1, adopted because easier to draw. The signs and planets are marked in as before. A figure thus completed is shown in Fig. 3.

The Relations of the Houses.

Each house, like each sign and each planet, had its special aspect, jurisdiction, or influence over human affairs. Just as Aries was the most powerful sign, and Luna the most powerful planet, so the ascendant was the most powerful house. The power of a planet in the ascendant was paramount over all others, though it might be influenced by them. It was the house of projects, of the beginnings of things, of journeys, of life and movement, and of questions and answers. The relations of the other houses were in part as follows: the second to riches, servants, the end of things, and the declining years of the native's life; the third to brothers and sisters, acquaintances and friends, heirs, the quiet of kingdoms, religion; the fourth to parents, heredity, the native's birthplace and dwelling, and his fate after death; the fifth to children, eating and drinking, amusements, fighting, vessels; the sixth to sickness and health, servants, animals, gifts; the seventh to women, marriage, contentions, thieves, and middle age; the eighth to death, fear, and the last years of life; the ninth to pilgrimages and journeys, faith, wisdom, and philosophy, books, rumours, and sleep; the tenth to dignities, laws, princes and magistrates, memory, the mother; the eleventh to fortune, good faith, friends and allies; the twelfth to unfriends, bad faith, labour, battles, sadness. These were only a few of the relations, nearly every conceivable event having its allotted home in some house. After the ascendant the other angular houses, fourth, seventh, and tenth, were most powerful; then the second, fifth, eighth, and eleventh; while the third, sixth, ninth, and twelfth were unpropitious and disposed to evil.

The Influence of the Planets.

Every planet had one or more zodiacal signs of which it was lord, another sign in which it was said to "rejoice," another in which it was "exalted," and in the opposite of the last it was "depressed." And the power of the planet was increased or diminished according as one or other of these signs was in the ascendant. A hot planet in a hot sign would have its heat augmented, but in a cold sign reduced. A moist planet in a humid sign would be dripping wet and would aggravate diseases due to moisture. Similarly planets had houses in which their power was augmented, others in which it was depressed. But the most important factor modifying the power of a planet was its aspect to other planets and to the ascendant.

An aspect was the distance between two planets as measured by the intervening houses or the angle formed by their rays converging at the spot for which the figure was drawn. The first was the conjunction, when the rays were practically parallel. Planets were said by some authorities to be in conjunction when they were within 2 degrees of each other, by others when within 15 degrees, by others when in the same sign, and by others when in the same house. A planet within 15 degrees of Sol was combust and its powers were abolished. Planets of like qualities in conjunction reinforced one another; if of unlike qualities, each cancelled a part of the other. Thus a good planet was augmented in power by conjunction with another good planet, but diminished by conjunction with an evil one, while the evil of the latter was lessened by the influence of the good planet.

The second aspect was the sextile, when the planets were two signs distant, separated by one-sixth of the zodiacal circle, or 60 degrees; it was moderately good. The third was the quartile, when a quarter of the circle, three signs, or 90 degrees, intervened; it was unfriendly or conflicting. The fourth was the trine, four signs, a third part of the zodiac, or 120 degrees intervening; it was the aspect of perfect benevolence. The last was the opposition, in which a distance of six signs, half the zodiac, or 180 degrees, intervened; it was the most hostile of all.

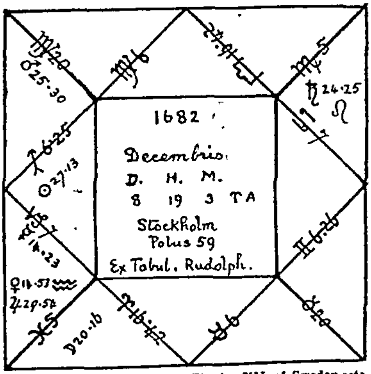
Every planet had two motions—first, that of the general movement of heavenly bodies, rising in the east, setting in the west. Secondly, its own proper motion among the stars, varying in different planets, and sometimes direct, sometimes retrograde, sometimes abolished. The moon completed her course in about 28 days, Saturn in about 29½ years. The motion of the planets was of much importance in medicine, for acute diseases, whose course was rapid, were governed by Luna, whose motion was rapid; while chronic diseases, whose course was slow, were governed by Sol, whose course was slow. If any planet that was regulating the course of a disease should become retrograde in its motion, the patient would, of course, get worse.

Lastly, as to times, each planet dominated certain hours of each day. Thus Saturn dominated the first hour of Saturday, Jupiter the second, and so on. When all the planets had had their hour the roster commenced again. That planet which dominated the first hour of the day dominated also the day itself, subject to the dominance of the respective planets of the hours. Each planet in turn also ruled one day of the week. Every undertaking to which any given planet was propitious ought to be begun at the hour in which that planet was dominant, and if possible on his day. When written directions were given as to any undertaking the planet propitious to that undertaking should be recorded on the directions, so that the undertaking might be begun in the hour of that planet. The planet most propitious for letting blood and taking medicine was Jupiter, therefore all written directions for letting blood or administering medicine should bear the sign with which we in fact to this day begin our prescriptions, the sign of Jupiter— ℞-♃

FIGURE OF A NATIVITY.

Dr. Mercier then presented and commented on a figure of a nativity. For this purpose, he said, it was convenient to select a person whose career was closed, because this gave the double advantage of ascertaining whether our predictions were correct, and also of keeping an eye on his career during the course of our interpretations, so that they might not go too wide of the mark. In the nativity of Charles XII. of Sweden (Fig. 3) he pointed out Sol

FIG. 3



This scheme of the nativity of Charles XII of Sweden sets forth the year, the month, the day, hour and minute of birth, and the scheme is erected accordingly and admits of no variation.[1]

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[1] There was however, a process known to astrologers as *Rectification* [illegible] but the

in the ascendant, presaging an illustrious career; Venus in the second house not aspecting the ascendant, characterising him as a despiser and neglecter of woman; Saturn unpropitiously situated in the eighth house, signifying death early and under disastrous circumstances; Mars in the twelfth, indicating a life spent in warfare and death on the field. Jupiter in the second was powerless to counteract the evil aspects of Saturn and Mars, while the moon in quartile to the ascendant indicated the early onset of misfortune. How true the prediction let the poet testify:—

> "His fall was destined to a barren strand,
> A petty fortress and a dubious hand.
> He left a name at which the world grows pale
> To point a moral, or adorn a tale."

LECTURE II.

Delivered on Nov. 11th.

In his second lecture Dr. Mercier proceeded to consider those powers of the signs and planets especially appertaining to medicine.

THE DOMINATIONS OF THE PLANETS.

The planets successively influenced the fœtus during pregnancy. Saturn in the first month dried it up, causing early abortions. Jupiter in the second month bestowed the spiritus naturalis. Mars, in the third, supplied bones and differentiated organs. Sol, in the fourth, supplied blood and perfected heart and liver. Venus, in the fifth, gave ears, eyebrows, and pudenda. Mercury, in the sixth, opened the nose and mouth. Luna, in the seventh, developed the lungs and divided fingers and toes.

After birth the most important dominations of the planets were as follows. Saturn regulated the black bile and presided over bones, teeth, cartilages, the right ear, spleen, bladder, and memory; also over their affections, and in addition over quartan fever, scabies, lepra, tabes, melancholia, paralysis, icterus niger, dropsy, cancer, cough, asthma, phthisis, and hernia; over violent death by falls, shipwreck, suffocation, and by the public executioner. Jupiter governed the blood, liver, diaphragm, muscles of trunk, touch and smell, judgment and *appetitus concupiscibilis*, and their affections, as well as small-pox, angina, inflammation, pleurisies, peripneumonias; and presided over death in war and duels. Mars governed the yellow bile, gall-bladder, pudenda, kidneys, the *appetitus irascibilis*. His diseases were acute fevers, plague, yellow jaundice, convulsions, hæmorrhages, carbuncles, erysipelas, ulcers, and phagedæna. He ruled death by steel, fire, projectiles, bites and stings, "the slaughters and blood-letting of ignorant surgeons." Sol regulated the heart, arteries, right side in men and left in women, the vital spirits, and the bilious blood. His diseases were ephemeral fevers, syncope, spasm, catarrhs, and diseases of the eyes; he ruled death by plague, syncope, and in battle. Venus presided over the pituitous blood and semen, the throat, breasts, abdomen, uterus, and genitalia; over taste and smell, touch and pleasurable sensations, and the *appetitus concupiscibilis*. Her diseases were lues, gonorrhœa, priapism, barrenness, lientery, and abscess. She governed death from poison and sexual excess. Mercury had jurisdiction over animal spirits, legs and feet, hands and fingers, tongue, nerves, and ligaments; over taste and hearing, common sense, imagination, and reason. His diseases were relapsing fevers, mania, phrenitis, delirium, fatuity, insanity, epilepsy, convulsions, and cough with profuse expectoration. He influenced deaths by poison, witchcraft, and certain processes of law. Luna presided over the phlegm, brain, the right side in women, the left in men, the stomach and membranes, fear. Her diseases were quotidian fevers, epilepsy, apoplexy, vomiting, fluxes, dropsy, cold abscesses. She caused death from superpurgation and drowning.

The several jurisdictions of Mercury and Luna showed that those we call lunatics should rather be called "mercurials," for lunacy in the strict sense was fatuity with lucid intervals. Until the passing of the Lunacy Acts the legal meaning of lunatic was a demented person who had lucid intervals, and though in common parlance it was applied to all insane persons, the more precise and conservative lawyer always used the term in its strict sense till the middle of the last century.

THE COMPLICATED NATURE OF ASTROLOGICAL CALCULATIONS.

Dr. Mercier next described in detail the corporature, or bodily configuration, which, with its corresponding mental disposition, was ruled by the several planets. The expert astrologer, he said, could tell at a glance what sort of person he had to deal with. The descriptions of the bodily configurations were not very definite, and authorities urged carefulness in judging of the dominant planet by the bodily configuration, a part of the science in which many failed. When it was remembered that any sign of the zodiac might be in any of the houses, that any planet might be in any house and have any aspect (sextile, trine, &c.) to the ascendant and the other planets, that the planets might have their powers reinforced or attenuated in various degrees, and that different planets had power over different persons, the possible variations were seen to be infinite and the whole scheme far too complicated for practical application.

In practice the calculations of the physician were narrowed down by Arnaldus de Villanova, a physician of great repute in the thirteenth century, to the following factors: (1) The thing concerning which the inquiry was made; (2) the sign that was in the ascendant; (3) the lord of it (whether of the sign or the ascendant was not clear); (4) the sign that was in the house of the thing inquired about (in the case of sickness this might be either the first house, or house of life; the eighth, or house of death; or the sixth, or house of sickness); (5) the lord of it (again, whether of the sign or of the house was not clear); (6) its (?) relation to the ascendant; (7) its (?) relation to Luna. The ascendant and its lord signified the sick man; the middle of heaven (the tenth house) his physician; the sixth house and its lord the disease; the fourth house and its lord his physic. Evil influences in the ascendant, tenth house, eighth house (of death), or fourth house were unpropitious; good influences acting on the ascendant and its lord, and Luna in a mobile sign (Aries, Cancer, Libra, or Capricorn), meant a speedy end (good or bad as otherwise indicated) to the illness; the opposite indicated a long illness.

After discussing the good and evil influences Dr. Mercier pointed out that the position of the

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moment of birth, not of Charles XII., but to that of Gustavus Adolphus. In working it out, however, he found that by no ingenuity or artifice could he make the predictions to be drawn from this scheme fit in with the known career of Gustavus Adolphus, whereas they suited with surprising accuracy and appropriateness that of Charles XII. So while he did not venture to take the liberty of altering the position of the heavenly bodies that astrologers were accustomed to take, he had merely altered the date by less than 100 years and substituted the name of one king of Sweden for another.

heavenly bodies in the houses altered from hour to hour, and a fatal disposition of them at one moment might change to a favourable one in a couple of hours, and *vice versâ*. Luna, who was now in the ascendant, and therefore smiled on the patient, would in 14 or 15 hours' time be in the eighth house, and condemn him to death. It was manifestly of the utmost importance, therefore, to fix upon the correct hour and minute for setting up the *tabula celestiarum*. It was to be feared, however, that in this matter astrological physicians allowed themselves a good deal of latitude. It was always advisable to compare the scheme of the decumbiture with that of the nativity of the patient. If the lord of the ascendant of the nativity was favourably placed and fortunately aspected in the decumbiture the patient would be strengthened and live, and *vice versâ*.

HOW THE SYSTEM ORIGINATED.

Dr. Mercier expounded at some length the relation of astrological influences to the administration of medicines and to critical days, and discussed the obvious objections to these doctrines, and the replies to these objections made by ancient astrological physicians. He then said that to us, with our present knowledge and requirements of evidence, and our ways of thought, all this appeared such a farrago of tomfoolery that it was difficult to understand how it could have been seriously entertained by men of ordinary intelligence, and yet we knew that it was, in fact, believed by the rarest intellects of their time, some of them, like Roger Bacon and Albertus Magnus, the rarest intellects of all time. It was, therefore, interesting to carry our minds back with a view to finding how the system originated and how it was maintained. The first was explained by the overwhelming power of authority, the last by the geocentric belief that was overthrown by Copernicus.

Man being the centre and end of the cosmos, what was the use of the heavenly bodies? The sun's influence on life was obvious enough, whence it was concluded that if the sun had influence so must the other planets have, and if his power varied according to the sign he occupied, so also would that of the other planets. In a world in which natural law was unknown and everything seemed to happen by chance the mind clutched at anything that offered an explanation of how things happened, and here was one ready to hand. The moon was evidently complementary to the sun. Her power was greatest when she was in opposition, and at this time she antagonised the sun by producing a colourable imitation of daylight at night, thus interfering with his power of regulating light and darkness. Since opposition meant antagonism other differences also must indicate some difference in influence. As the sun was manifestly benevolent to the human race, the moon, which antagonised him, must be malevolent.

Whatever characters the sun and moon possessed must be shared also by other planets. To induce diseases the planets must influence those humours by whose defect or excess diseases were produced, and this was effected by the four qualities, heat and cold, moisture and dryness, which characterised these humours as they pervaded all things in Nature, including the planets themselves, in varying combinations. When we had got thus far the remaining doctrines of medical astrology followed naturally by development and elaboration.

THE HUMAN CRAVING FOR EXPLANATIONS.

We should take a very superficial view of astrology, however, if we failed to recognise that beneath all this strange doctrine, under all its monstrous assumptions, lay the insatiable craving of the human mind for explanations. Astrology had been discarded as a garment outgrown, but could we assure ourselves that we had outgrown and discarded the mental carapace that rendered such beliefs as astrology possible?

Did not logicians still teach doctrines every bit as absurd as the doctrines of astrology? Even in medicine itself, did we never take that for an explanation that was no explanation? Ataxia was explained by calling it a loss of coördinating movements; a delusion by discovering a lesion in the brain; feeble-mindedness by hereditary influence; hysteria in middle age by some sexual irregularity in youth; a hypothetical increase of appendicitis by a hypothetical increase in the consumption of meat!

Surely we had every right to despise those who attributed all acute diseases to the influence of the moon and all chronic ones to that of the sun, and the "Black Death" to the conjunction of Mars, Jupiter, and Saturn in Aquarius, for we now knew with assured knowledge that all acute diseases were produced by intestinal stasis, and all chronic diseases were due to that blessed combination of words—alimentary toxæmia.

THE LEPROSY PROBLEM IN THE BRITISH EMPIRE.[1]

BY H. BAYON, M.D. GENOA,
RESEARCH BACTERIOLOGIST TO THE UNION GOVERNMENT OF SOUTH AFRICA.

ON considering leprosy from a nosological point of view one is struck by its long incubation, its slow and chronic course, and the terrible mutilations and disfigurement it is capable of producing without appreciably shortening the life of its victims. Its general infectivity, or, more correctly, contagiousness, appears to vary somewhat in different climates, because though nowadays it is practically confined in great numbers to tropical and subtropical countries, still it can claim to be a universal disease occurring from north to south all over the inhabited hemisphere. In other words, it appears to have spread or persisted under some conditions, and died out under others, because we know that it was extremely prevalent in Europe in the Middle Ages.

The Contagiousness of Leprosy.

It is not possible, from a scientific point of view, to deny that leprosy is contagious, even though we may not quite exactly know in which way the disease is transmitted from one individual to another. Our knowledge of this fact is founded on the following substantiated observations.

1. That it is a disease due to a definite micro-organism.

2 That in Northern Germany, where the disease had been reintroduced from Russia in modern times, the infection was found to have concentrically spread from the first imported cases.

3. That the overwhelming majority of cases originate in countries where leprosy is relatively common.

4 That in the rare cases where the disease has been contracted in countries where leprosy is not indigenous, such

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[1] The substance of a lecture delivered before the Royal Society of Medicine on Nov. 20th, 1913.

as England, Holland and Southern Germany, in every case we are able to prove the more or less intimate contact with lepers who in their turn came from abroad after a more or less prolonged stay in a leprosy-ridden country.

5. That in countries where leprosy is relatively rare the disease is found to be bound to definite foci or families. This has been observed in the Alpes Maritimes, on the Riviera, and in the Valais.

6. That the countries which have carried through universal segregation have been rewarded by a gradual and constant diminution of the disease.

7. That where segregation has been abandoned or loosely carried out the scourge has attacked an ever-increasing number of individuals.

The grounds on which the contagiousness is denied are the following, I believe:—

1. That medical men and attendants never contract the disease in leper asylums.

2. Because the disease cannot be transmitted to animals, and inoculation experiments on human beings have failed.

The first statement is not quite correct.

Infection under these circumstances is not frequent, but still several cases can be brought forward showing that attendants and medical men do contract the disease. In this country the infection of Sir George Turner has become public, but missionaries, nurses, attendants, and medical men are still living in England and elsewhere who have contracted the disease under similar circumstances, but whose cases are only known to those taking a definite interest in the disease. It should not be forgotten that on somewhat similar grounds the infectivity of tuberculosis has been denied, the deduction being based on statistics showing the low ratio of marital infection.

Nor is the second statement quite correct.

The first part of this argument would have allowed us 15 years ago to deny the contagiousness of syphilis. As a matter of fact, leprosy appears certainly to be transmissible to laboratory animals such as the rabbit or rat, the lesions in the first instance being very often strictly localised, and failing to develop at all in a very great proportion of experiments.

The whole question is, however, still under discussion, but I am demonstrating sections under the microscope, from which you may be able to form your own opinion.

As to the inoculations which Danielsson, Profeta, Cagnina, and Bargilli carried out on themselves and others, the results, it is true, were negative, but in view of the knowledge acquired of the bionomics of the leprosy micro-organism they have only proved that experimental inoculation with small quantities of leprous material is incapable of producing the disease in the human being in every case.

In Arning's well-known case of the convict Keanu, who was pardoned on condition that he allowed himself to be inoculated with leprosy, the disease did develop, but the case is somewhat spoilt by the fact that the man had lepers among his relatives, and was in contact with them before and after the inoculation.

Unfortunately, leprosy is a disease with too far-reaching consequences to make its inoculation morally justifiable, even on willing subjects. Therefore, we must await the results of further animal experiments, which should confirm previous successful results.

Another argument often brought forward by non-contagionists is that leprosy disappeared in the Middle Ages from England, France, Germany, &c., without strict measures of segregation having been resorted to. It appears to me that the measures adopted to prevent the spread of the disease were extremely severe. Lepers were not allowed into churches or market places, had to carry a distinctive dress, and had to make their presence known by a bell or clapper—in a few words, the intimate contact between the healthy and the diseased which gives rise to the most favourable conditions for transmission was most radically avoided. I also believe that plague directly and indirectly swept away a great proportion of the leper population, as they were feeble, and during times of epidemics and commotion would receive no alms. This observation has been confirmed to a certain extent in India in modern times.

Figures bearing on the contagiousness of leprosy are available from Norway and Japan, and both seem to point the same moral. Kitasato's statistics from Japan show that children of lepers become leprous in a proportion of only 7·05 per cent. of the total. Matrimonial infection was proven in 3·8 per cent. of cases, whilst persons living under the same roof showed a proportion of only 2·7 per cent. Brothers and sisters infect each other in a ratio of 4·2 per cent. These figures may need correcting according to the latest statistical methods, but they roughly correspond to the experience gained in Norway, where Sand and Lies's figures differ somewhat, but show that the children of a leprous mother are more frequently infected than those whose father alone is diseased. showing that the more intimate contact between mother and child leads to a greater percentage of acquisition of the scourge. Sand's statistics from Norway show that in 357 married couples in which the father alone was a leper, 1241 children were born of whom 63, equal to a proportion 4·9 per cent., became lepers. In 138 other married couples observed the mother only was a leper; of 533 children born of these unions, 56, or 10·5 per cent., developed leprosy. In 17 couples both parents were diseased; of the resulting 63 children, 8, or 12·7 per cent., got infected. Lies's figures from South-Western Norway give somewhat similar results. 230 married couples in which the father only was a leper had 769 children, of which 79, or 10·2 per cent., contracted the disease. In 223 married couples the mother only was leprous; of 648 children of these, 106, otherwise 16·36 per cent., became lepers. In 28 instances both parents were lepers; out of 79 children, 29 fell victims to leprosy—that is, 39·19 per cent.

All these figures show, however, that leprosy is but relatively slightly contagious, though under certain circumstances the disease has been known to have been acquired with great ease after a very short stay (a day or two) in leprosy-ridden areas, though it may have developed or been noticed as late as 20 or more years after contagion. This being so, it is absolutely useless to try to deduct anything from a small series of experiments, or experiments where observation has not been sufficiently prolonged. The same applies to the bacteriology of the disease; a few attempts at cultivation are bound to be futile, even hundreds of tubes, and dozens of attempts may result in perfectly negative results.

The question of the transmission of leprosy remains to be mentioned. The statistics I have quoted seem to show so clearly that contagion or infection through immediate contact is the usual mode of transmission, that it appears rather far-fetched to seek an insect carrier of the scourge. As a matter of fact, all experiments to prove this mode of dissemination have so far failed, though it appears quite probable that the common house-fly can suck up the germs of the disease from open sores and carry them about for several days. The horrid sight of flies swarming and hovering round purulent sores and round the nostrils of leprous beggars is well known to the traveller in Eastern countries.

The heredity of leprosy has also been refuted in the course of time for the following reason—that the children of leprous parents if taken away at an early age only develop the disease in very rare instances. Of course, it cannot be absolutely denied that in a minimum proportion of cases the lepra bacterium may pass the placenta and infect the fœtus, but cases of congenital leprosy appear to be unknown, though in several instances children have shown definite symptoms of the complaint before the age of five.

The modern medical eye looks, therefore, upon leprosy as a disease which is definitely contagious, but to a very slight degree under proper sanitary conditions. In situations where hygienic precautions are defective and the contact between the diseased and the healthy is unnecessarily immediate, where a leper is obliged to sleep in the same bed with other members of the family, and personal cleanliness apt to be in abeyance, the danger of contagion is certainly present in a varying extent.

We know that at the present moment about 25 to 50 lepers or more are living in England, and yet of these only one has acquired the disease in the United Kingdom. The simple precautions which these unfortunate people are able to take to keep themselve separated from their families have been sufficient to prevent contagion. In India, on the other hand, the last Census appears to show an increase of lepers from 100,000 to 110,000 in ten years. In Basutoland the principal medical officer counted 300 lepers 25 years ago; the Government was asked in an official report to enforce segregation, otherwise an increase to double that number was to be expected within 20 years. For financial and other reasons this advice was not acted upon. Last year a census shows 800–900 lepers in Basutoland, so that the principal medical officer does not appear to have gone far wrong in his prophetical estimate.

The Treatment of Leprosy.

Nearly every imaginable drug has been tried, and a great number are still under experiment with the intention of discovering a cure for leprosy, but we have yet to find a specific and sure method of treatment. The present position can, however, be summed up in the words that even the most useful therapeutic agent requires the help of an early diagnosis of the disease and proper hygienic conditions, but that at no time the therapeutic outlook has been so hopeful as at the present moment. In its initial stages leprosy affects the general well-being and appearance of an individual to such a slight extent that any therapeutic effort which succeeded in arresting the disease in its early stages in a fair proportion of cases would practically amount to a cure. Spontaneous remissions of the disease and spontaneous apparent "cures" take place, however, in a small proportion of lepers, and can last for several years, in some instances as long as 15 years or more, after which the disease may again become virulent and rapidly carry its victim to the grave. Therefore any drug or method of treatment must stand the test of time—five years or more—and have been carried out on a sufficient number of patients. Without taking into consideration these important initial factors it is absolutely irresponsible to speak of cure in a chronic, slow, intractable plague such as leprosy is known to be.

A review of all therapeutic attempts, many of which are eminently sketchy and saltatory, would fill a volume by itself. I may, however, be allowed to give the results of the experience made at Robben Island, and in South Africa generally. For all advanced nodular stages chaulmoogra oil, or better still its refined constituent, "anti-leprol," injected intramuscularly 3 to 5 c.c. at a time, is still the best palliative I know of. The injections should be repeated every three days, and the course should last for five months or more if the patient can stand it, because at times the injections may become very painful. Chaulmoogra oil and anti-leprol can also be given internally in small capsules. Anti-leprol is decidedly preferable for the latter mode of treatment, as it does not cause the gastric disturbances which are the outstanding feature of the unrefined oil. Doses varying between 15 m. and ten times that quantity can be taken daily.

Early macular cases appear to respond better to other forms of treatment. A cultural extract has been prepared from Kedrowsky's isolation of the micro-organism of leprosy on similar lines to Koch's Alt-tuberkulin. It contains, accordingly, the water-soluble toxic constituents of the bacillus, which, however, in the case of Hansen's germ, are very feeble indeed, so that much higher concentrations have to be injected than is the case in the analogous treatment of tuberculosis by tuberculin. Dr. J. M. H. MacLeod, of Charing Cross Hospital, and Dr. Sydney Davies, resident medical officer of the Pretoria Asylum, have made use of this substance on single chosen cases. The results in both instances have been very satisfactory. Dr. MacLeod's case has now been under treatment over a year, and has improved to such an extent that the disease is no more diagnosable. I am authorised to say that other therapeutic efforts failed to bring about any change for the better, and that the patient has now been observed for over a year and a half without any remission taking place. On the contrary, a further subjective improvement has so far taken place that muscular pains which were present in the arm affected have disappeared. Dr. Davies's patient, a girl aged 8½ years, was covered with dusky red patches all over her body. These faded away in the course of treatment extended over three months, and have not reappeared during a period extending over ten months. Similar results were obtained at Robben Island.

I should like to clearly state, however, that this method of treatment does not appear to be of real advantage in advanced nodular cases. The injection of one or two cubic centimetres of the cultural extract causes a rise in temperature which is accompanied by the appearance of bacilli in the blood. This may possibly lead to dissemination of the germs of the disease. If the individual affected is young and otherwise healthy, and the leprotic symptoms not marked, a course of injections beginning with one cubic centimetre hypodermically every three days may be distinctly beneficial. The treatment should be continued for some time even after the maculæ have disappeared.

The surgical treatment of leprosy requires most careful and constant attention. Fingers, toes, hands, and feet are constantly getting septic, and prompt surgical intervention can really work marvels. Eye complaints, which are exceedingly frequent among lepers, are amenable to a certain extent to operative procedures, but relapses often follow even after the most skilful intervention.

On Preventive Measures in Leprosy.

Having shown that leprosy is but slightly contagious if proper sanitary precautions are taken, and that any form of treatment which can be applied with any hopes of success must be made use of in the very early stages of the disease, it may appear inconsequent to follow up with the statement that only a universal system of segregation can hope successfully and promptly to cope with the spread of the disease. The Americans in the Philippines succeeded, by an energetic and consequent segregation of all cases, in reducing the new admissions by 90 per cent. In South Africa, where in some colonies, out of financial considerations, only about half of the leper population is segregated, the rate of admission has remained constant for the last ten years. And yet the Leprosy Repression Act in Cape Colony was extremely severe—in virtue of its very severity it could not be carried out in its entirety. Opponents of segregation consider that it is a cruelty to separate the lepers from their friends and family. Two facts, however, are overlooked: one is that when an individual develops leprosy in a severe form his friends soon abandon him, and that consideration of the feelings of one may mean the misery of many, because one single leper may give rise to several. In a case observed in Northern Germany one girl directly and indirectly infected 28 people.

It is only in properly constructed and conducted asylums that lepers can be satisfactorily taken care of and prevented from infecting their surroundings. If in the course of time early cases, and a certain proportion of the more advanced, can be favourably influenced by treatment, or even if the present results withstand the test of time, there will be ample reason for trying to get rid of the scourge by universal registration and segregation, which also entails proper treatment and care. I quite admit that tuberculosis and syphilis present two problems which are equally if not more pressing. But we are not aware that consumption can be stemmed by segregation, and syphilis requires quite other measures.

Leprosy is far reaching in its social results, and the individual affected is cut off to such an extent from his fellow beings as renders his earning of a livelihood a matter so precarious that it is the duty of every Government to prevent its further spread from the standpoint of humanity and also that of sound policy.

It does not seem to have been sufficiently understood that all measures of preventive medicine which are based on sound scientific principles are excellent business propositions. I believe that the money invested in the study of Mediterranean fever, now that the cause has been found, is saving the Government yearly a sum which would be sufficient to pay a dividend of about 100 per cent. or more. Such examples could easily be multiplied; one which lately came under my notice in Russia deserves mention here. Relapsing fever in Moscow alone attacked about 1500 to 3000 individuals each winter. Each patient remained in hospital about three to five weeks. Since the invention of salvarsan, which is a wonderful specific for similar diseases of the blood, the stay has been shortened to five days or a week. The resulting saving is about 30,000 to 50,000 roubles a year.

The sanitation of Khartoum, which owes so much to the work of the late Director of the Wellcome laboratories at the Gordon College, has also made itself pay over and over again in hard cash by the resulting influx of visitors and saving in hospital expenses for inhabitants and officials.

How are these comforting examples applicable to the problem of leprosy in the British Empire? By a systematic and persevering attempt to get rid of the disease by instituting settlements for the voluntary segregation of the worst cases, where the numbers are too great to be dealt with at one time, as is the case in India; by a system of universal segregation in properly conducted asylums in those colonies and dependencies where relatively small numbers only are to be accounted for. Unfortunately, in some countries the principle "out of sight out of mind" is still applied to the leper asylums; any money spent on such principles is nearly wasted. It should, however, be clearly understood that every system of segregation needs the coöperation of the lepers themselves, and this can only be obtained by paying the asylum staffs proportionately and adequately and securing proper medical attendance. The experience of other countries shows us that such a course would lead to a gradual extinction of leprosy, a disease which has now been known for such a long time that its survival should no longer be tolerated.

TUBERCULOSIS OF THE EYE.*

BY SYDNEY STEPHENSON, F.R.C.S. EDIN., D.O. OXON.,

OPHTHALMIC SURGEON TO THE KING EDWARD MEMORIAL HOSPITAL AT EALING AND TO THE QUEEN'S HOSPITAL FOR CHILDREN.

NOT so very long ago tuberculosis was regarded as a rare cause of diseases of the eye. The textbooks current in my student days had little to say upon the subject. The etiological importance of tubercle was then altogether overshadowed by that of syphilis.

Villemin's classic discovery that tubercle could be inoculated into rabbits (1865) was in 1867 applied by Langhans to the conjunctiva of those animals. The first definite case of tubercle of the human conjunctiva was brought forward by Koester in 1873, and was speedily followed by communications by Sattler, Walb, and others. In 1882 Pfeiffer published a paper on the bacillus tuberculosis as found in lupus of the conjunctiva. But so infrequent was the condition thought that, writing in the year 1885, P. H. Mules estimated the incidence of the disease at 1 in 33,000 eye patients. With this it is instructive to contrast the more modern estimates of 1 in 2700 (Eyre), 1 in 1660 (Saemisch), or 1 in 1000 (Stephenson).

For a knowledge of the fact that the lacrymal sac may be affected by tubercle we are indebted to the Zurich School of Ophthalmology, as represented by Haab (1879) and Amiet (1887). Pioneers were Wagenmann (1888), Leidholdt (1889), Fick (1890), and Bock (1891). In 1894 Jaulin devoted his Paris thesis to the subject. Among 52 lacrymal sacs excised in Wagenmann's clinic, Grobe and Hertel found tuberculous changes in 7 per cent., while Rollet found the same lesions in 8 per cent. of 46 extirpations. In May, 1910, an important discussion (opened by E. Rollet) on tuberculosis of the lacrymal passages took place at the French Ophthalmological Society.

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* Remarks preliminary to a demonstration of cases of tuberculous disease of the eye given at the Medical Graduates' College and Polyclinic, London, on Oct. 24th, 1913.

Interstitial keratitis was described by the famous William Mackenzie in 1830 as "scrofulous corneitis," but in 1863 Sir Jonathan Hutchinson showed that the affection was almost always a direct result of inherited syphilis. The influence of acquired syphilis in that direction was not then recognised by Hutchinson. To some extent professional opinion has now veered round to Mackenzie's view. It is known that some of the cases, particularly the unilateral and less typical ones, are due to tubercle. For example, in my own series of 101 cases of interstitial keratitis[1] tuberculosis was identified as the cause in 9·90 per cent. In short, the modern biological tests for tuberculosis have supported the view, originally based on clinical observation, that tubercle is a cause of primary keratitis.

Conditions that we should now regard as tuberculosis of the iris were described by Lawrence in 1833 and by Mackenzie in 1854. Such cases were examined with the microscope by Richetti in 1869 and by Berthold a couple of years later. In 1890 Julius von Michel[2] stoutly maintained that inflammation of the iris due to tubercle was nearly as common as that due to syphilis. Iritis might result from tuberculous infection, and yet might not be accompanied by tubercles. Michel held that a tuberculous inflammation of the iris might be the first visible expression of tubercle in some other part of the body.

The foregoing views received support from the experimental work of W. Stock,[3] who by the injection of pure cultures of tubercle bacilli into the auricular vein of rabbits was able to produce inflammation of the iris and ciliary body (anterior uvea), to say nothing of other structures of the eye, such as the cornea, the sclera, the choroid, the conjunctiva, and the tarsus. The naked-eye characters of these experimental inflammations in many instances did not conform with those generally regarded as characteristic of tubercle, neither did their histological structure, despite the all-important fact that tubercle bacilli could be found in them.

That tubercles might form in the choroid has been known since G. de Mussy found them after death in 1837, Jaeger recognised them during life with the ophthalmoscope in 1855, and Manz examined them with the microscope in 1858. In 1896[4] I described a chronic form of choroidal tubercle, of which I had seen examples in the fundi of "strumous" children, and I adduced reasons for believing that such lesions might become absorbed, leaving behind them more or less characteristic changes in the fundus oculi. Some few years afterwards the late George Carpenter and myself[5] again described these deposits as instances of "obsolescent tubercle," and in reference to acute miliary tubercle of the choroid, estimated that those changes were found in at least 50 per cent. of cases of tuberculous meningitis. Various choroidal lesions believed to be of a tuberculous nature were found in 11 of 119 patients suffering from such various forms of surgical tuberculosis as adenitis, enlarged joints, spinal caries, and chronic tuberculous cerebral tumour. Recently, Wilbur B. Marple,[6] working at the Babies' Hospital, New York, found miliary tubercle of the choroid in 13 consecutive cases of tuberculous meningitis (100 per cent.). The examinations were made at very frequent intervals, the electric ophthalmoscope being used for the purpose.

Material support to the present writer's views on the subject of "obsolescent tubercle" has been given by T. Harrison Butler,[7] who saw eight such cases among 5000 eye patients. In some of his cases the tuberculous nature of the cases was demonstrated by the employment of tuberculin. Carl Koller,[8] of New York, too, has reported two of these cases, which presented so definite a clinical picture that Koller claimed it as "one of the ophthalmoscopically recognisable forms of choroiditis." In one of his cases, after the injection of tuberculin, Koller obtained reaction in the affected eye, as shown by opacities of the vitreous and change in the colour of the choroiditic lesions.

Despite the dictum of Calderaro,[9] that tubercle of the sclera is primitive, and that even when associated with other tuberculous manifestations, probably arises from exogenous infection, it is likely that the condition in question is nearly always secondary to tubercle of the anterior uvea. The dense fibrous tissue of the sclera would naturally be inimical to the implantation and the development of the virus. Inspection of a section of tuberculosis of the uvea sometimes gives the clue to the origin of tuberculous scleritis. It shows collections of lymphoid and endothelioid cells lodged in the close neighbourhood of vessels in the thickness of the sclera, but separated by sound tissue from the ciliary body, on the one hand, and the surface of the sclera, on the other, although at the same time a nodule of typically tuberculous tissue may be found in the latter position. The transference in this case has been by metastasis. There is another and perhaps commoner mode of origin from the anterior uvea—namely, by direct spread. As surmised by Hancock and Mayou,[10] many cases of tuberculous scleritis doubtless masquerade as instances of episcleritis.

From what has been said it will be evident that the tubercle bacillus is becoming more and more widely recognised as a cause of diseases of the eye. It is now known that every part of the eye and its appendages, with the single exception of the crystalline lens, may be invaded. By almost universal consent, the B. tuberculosis is now ranked next in importance only to the spirochæta pallida as an etiological factor in maladies of the eye. Apart from such paratuberculous conditions as phlyctenulosis I must not be understood as claiming that tuberculous affections of the eye are common. That would be far from accurate. But we know that tubercle affects structures of the eye once believed to be exempt, while some tuberculous maladies, formerly believed to be very rare, are now known to be comparatively frequent. In other words, tubercle of the eye is relatively but not absolutely common. It need hardly be said that a tuberculous condition of the eye implies the existence of tubercle bacilli, human or bovine, and that these may gain entrance to the eye either by exogenous or endogenous infection.

Such conditions as tubercle of the conjunctiva or of the lacrymal sac appear to be nearly always due to exogenous infection. To the conjunctiva the bacillus gains entrance by a scratch, an abrasion, a broken-down phlyctenule, a penetrating wound (accidental or surgical), or even, as suggested by John W. H. Eyre,[11] between the interstices of the epithelial cells of an apparently normal conjunctiva. On the other hand, tuberculosis of the inner parts of the eye, as the iris, ciliary body, or choroid, are nearly as invariably the outcome of endogenous infection carried by the blood stream from a focus of tubercle in some other part of the body to the eye.

While such is, broadly speaking, the etiology of the conditions named, exceptions of course occur. On two occasions W. Stock,[8] whose work has already been alluded to in this communication, succeeded in producing tubercle of the conjunctiva by injecting cultures of tubercle bacilli into the venous system of the rabbit. This will prepare us for the statement that on occasion tubercle of the conjunctiva may be due not to exogenous infection, as is the rule, but to endogenous infection. This happened in a case reported by myself[12] some years ago, where a female child, aged 17 months, suffered from tubercle of the conjunctiva as part of a generalised tuberculosis, with pulmonary, meningeal, and choroidal manifestations. The case was fatal. In a somewhat similar sort of way tuberculosis of the iris has been known to follow a wound (E. Fuchs, L. Dor).

The distinction between the two kinds of infection, exogenous and endogenous, is not without practical importance. For example, an exogenous lesion, such as a tuberculous lacrymal sac, may be completely removed, and all chance of generalisation be thereby abrogated. On the other hand, it would be of little use removing an eye with tubercle of the iris or choroid with a view to prevent generalisation, since the condition practically always originates from a tuberculous lesion elsewhere. Yet it is not so many years ago that a deservedly popular text-book on diseases of the eye recommended that way of dealing with tuberculous iritis. It is quite a different thing when removal of such an eye is rendered necessary by the local conditions, especially by pain, although Rogman[12] and others have drawn attention to the danger attendant upon enucleation in tuberculosis of the eyeball.

Some tuberculous maladies of the eye are so characteristic that they may be recognised as such almost literally at a glance, but there are many more that cannot be diagnosed in that simple way. In dealing with an accessible lesion—for example, a diseased lacrymal sac—we first try to find the specific micro-organism in the pus after the latter has been mixed with antiformin, or that failing, we seek for it in excised granulations. A simple method I have sometimes employed with success is to wash a bit of excised tissue free from blood in several changes of sterile water, and then, after cutting it open with knife or scissors, to smear several cover-glasses with the raw surface. The prepared glasses are stained in the ordinary way with carbol-fuchsin. This method of diagnosis may be applied also to a conjunctival granulation or to a diseased nodule excised from the sclera. Only in case of failure does it become necessary to resort to emulsification, the centrifuge, and other methods, into which it is not my intention to enter now. If Koch's bacillus be found under the circumstances we may safely conclude that the condition is of tuberculous nature.

In some circumstances we turn to the histological diagnosis, particularly when the conjunctiva is affected. A morsel of affected tissue is excised with scissors, hardened in formol, and cut in paraffin. The sections are then stained for structure (hæmatoxylin-eosin) and for acid-fast bacilli (Ziehl-Neelsen method). Such specimens from the conjunctiva frequently show the most beautiful pictures of tuberculosis, including giant cells of the Langhans type and areas of caseation. Indeed, complete tubercle-systems are common. It is unfortunate that the histological diagnosis is apt to fail us in what is clinically the most common form of conjunctival tuberculosis—namely, that characterised by hypertrophic granulations, the so-called "cockscomb excrescence." Sections from such cases usually show little more than so many lymphocytes, together with small blood-vessels embedded in scanty connective tissue. Moreover, in cases which represent extension of lupus from the skin to the conjunctiva the histological investigation seldom yields conclusive results. In these two forms of conjunctival tuberculosis, as pointed out by John W. H. Eyre,[11] the tubercle bacillus is difficult to find. It was formerly thought that Muller's fluid, then employed almost to the exclusion of other fixatives in eye specimens, was responsible for the difficulty. But the fact that Haab[14] succeeded in demonstrating the bacilli in specimens that had lain in Muller's fluid for several years speaks against the view. It is much more likely that the organisms are hard to find simply because they are present in extremely small numbers, a respect in which we are reminded of lupus vulgaris.

Prominence has recently been given to the work of G. Liebermeister,[15] who holds that atypical anatomical lesions may result from the action of the tubercle bacillus. He found that guinea-pigs inoculated with such atypical products became infected with tuberculosis. In other words, Koch's bacillus need not of necessity produce a histological tubercle, although that is its most characteristic product. W. Stock[8] found that the ocular lesions experimentally brought about by injection of tubercle bacilli into the blood of rabbits often failed to show a typically tuberculous structure, although the B. tuberculosis could be demonstrated in them. In my own experience, this is sometimes seen in sections from human tuberculous uveitis, where the sole histological evidence of tubercle is furnished by scattered nodules of lymphocytes, and yet on other grounds, notably the finding the tubercle bacillus, it cannot be doubted that the lesion is tuberculous. In the choroid, on the contrary, the lesion is generally of the most distinctive type. The tubercle, whether submiliary, miliary, or massed, is a typical histological tubercle. The anatomical changes in tuberculous lacrymal sacs, again, are often of a highly characteristic nature. In reference to this point Bribak[16] insists that the whole sac should be cut in series, since otherwise a small tuberculous deposit may be readily overlooked. Fibrosis, which involves much thickening of the wall, is regarded by Collins and Mayou[17] as characteristic of the condition. Sections of tuberculous scleritis, while they seldom include many tubercle bacilli, usually show typical giant cell systems, together with caseation. In this country we are precluded from a resort to the most certain of all tests—viz., the inoculation of suspect material into an animal susceptible of tuberculosis, such as the guinea-pig.

When dealing with an affection of the deeper parts of the eyeball suspected to be of tuberculous nature a method of diagnosis adopted by myself and some others may be employed. It consists in drawing off the aqueous humour and in examining it directly for tubercle bacilli, or in trying to cultivate those organisms from it, or in inoculating it into the eyes of experimental animals. Gourfein[18] was the first to employ this method. Soon after the publication of his first communication I succeeded in growing the tubercle bacillus on glycerine-agar inoculated with aqueous humour *from a case of tuberculous uveitis.* Another of my experiences was communicated to the Ophthalmological Society in October, 1907.[19] The facts follow. A female, aged 35 years, suffered from iridocyclitis of one eye. When the keratitic deposits had cleared enough to allow the fundus to be seen, what appeared to be a tubercle of the choroid was found near the optic disc. The anterior chamber was tapped, and careful examination of cover-slips smeared with the fluid led to the discovery of a few acid-fast bacilli. The patient (seen only the other day) is now in good general health, although she reacts strongly to von Pirquet's surface vaccination. The choroid shows an obsolescent tubercle. In yet another instance of chronic iridocyclitis,[20] where the clinical evidence of tubercle was slender and included only a slight rise in temperature towards night, increased pulse-rate, and one enlarged gland at the angle of the jaw on the left side, a restricted number of tubercle bacilli was found in the aqueous humour obtained after the affected eye had been enucleated. The presence of tubercle, however, had been attested in this patient, a girl aged 12 years, by the general reaction that on two occasions followed the subcutaneous injection of 1/1000 mgr. of tuberculin T.R., as well as by the *focal reaction* that was produced by applying Calmette tuberculin to the sound eye.

Lastly, we have at disposal other means for the recognition of deep-seated tuberculosis of the eyeball, as of other parts of the body. Leaving aside the biochemical examination of the blood serum with a view to the detection of specific antibodies, hypersensibility towards the toxins of tubercle may be demonstrated in several ways, of which two alone need be glanced at in this place—viz., (1) von Pirquet's skin reaction; and (2) Koch's subcutaneous test.

1. Von Pirquet's skin reaction, as well known, merely consists in making three small vaccination marks upon the forearm (or elsewhere), and allowing a drop of 25 per cent. old tuberculin to act upon two of the scarifications, the third being left as a control. Hyperæmia of the marks treated with tuberculin within 24 hours of the little operation testifies to a positive reaction. At this stage the resemblance to a mosquito bite is often very close. The advantages of the von Pirquet method are that it is easily performed, is free from danger, and may be used in out-patients. On the other hand, the test is so sensitive and tubercle (past or present) is so common † that, except in young children, the reaction is not of much diagnostic use. Singularly enough, a negative reaction is of greater value than a positive. An eye disease suspected to be of tuberculous origin is certainly due to something else if the patient fails to react to the careful use of tuberculin. A drawback of the von Pirquet method from the present standpoint is that from it we obtain no reaction as regards the eye lesion, so that we are *cut off from a valuable means of diagnosis.* In other words, the plan can merely certify us that a tuberculous lesion (active or latent) is present in some part of the body, without indicating its *locality.*

2. These disadvantages do not apply to the Koch subcutaneous method, which in return has some peculiar to itself. The "general reaction," as everybody knows, is shown by a rise in temperature some few hours after the injection of old tuberculin into the subcutaneous tissue, reaching a maximum in about 12 hours, and then falling slowly to normal. The outstanding advantage of the method is that some appreciable change, as increased redness, is observed in perhaps one-half the cases in the affected eye, and this "focal reaction," as it is called, stamps the lesion in question as tuberculous. Upon one form of focal reaction great stress has been laid by W. Stock[8] as a sign positive of tuberculosis. This consists in tiny grey deposits or thickening of the iris in the minor circle of that membrane. Something of a similar kind has been described by G. Tobias[21] in the shape of fine greyish spots situated at different levels in the substance of the cornea. These, like the changes *signalised by Stock, are scarcely likely to be* identified without the help afforded by the binocular magnifying glass.

The great advantage of the Koch method may be more than counterbalanced by the fact that on occasion the focal reaction produced by the tuberculin may exceed the limits either desired or expected of it. For example, rapid extension of ulceration or grave diminution of vision has been known to follow the operation. The former accident was mentioned by John W. H. Eyre,[11] while the latter has been described by W. E. Gamble.[22] In Gamble's patients the injection of old tuberculin was followed by a reduction of sight from 20/40 to 20/100 in the one case, and from normal to less than 1/10 in the other. The failure of sight, which occurred simultaneously with the general reaction, began some 17 hours after the injection, and lasted for three days or longer. In a case of tubercle of the fundus reported by Kraus and Brückner[23] focal reaction following the injection of tuberculin manifested itself under the guise of an increased [illegible] d œdema of the retina. [illegible] an intraocular hæmorrhage in a child with iridocyclitis in course of treatment by tuberculin, but was not altogether satisfied that the two were connected as cause and consequence. T. Harrison Butler[25] has on several occasions seen the injection of tuberculin do harm. In one case of tuberculosis of the iris in a patient with a hectic temperature Butler gave 1/10,000 mgr. of T.R. after the temperature had been brought to normal by rest in bed. "The result," writes Butler, "was disastrous and hastened the inevitable loss of both eyes." He mentions two other cases where a condition of anaphylaxis had supervened, since in both tuberculin had been employed without mishap on former occasions. In the first, a severe example of scleritis of both eyes in an elderly woman, a relapse was treated with 1/5000 mgr. of T.R. As a result both eyes became violently inflamed and intractable iridocyclitis supervened. In the other case, of which no details are given, Butler states that the focal reaction caused considerable anxiety. The author as the result of his experience holds that a focal reaction obtained during a course of tuberculin treatment always does harm in eye cases, and on occasion great harm.

It would be impossible to conclude without paying a tribute to A. von Hippel,[26] who in 1904, at a time when tuberculin lay under a cloud, showed how it could be used successfully in cases of eye disease. He had employed it for ten years, and had come to regard it as a means of saving eyes that he would once have considered beyond medical help. He employed graduated doses of tuberculin T.R., and in serious cases continued the remedy for six months at least. Injections, carefully controlled by the bodily temperature, were given every second day. Treatment was commenced with 1/500 mgr., and the dose was increased by 1/50 mgr. up to 1/5 mgr., and then by 1/10 mgr. to 1 mgr., an amount that was not exceeded.

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† Evidences of tuberculous infection were found by Hamburger in 77 per cent of the necropsies made on children dying between the ages of 11 and 14 years, and by Naegeli in no less than 97 per cent. of the bodies of adults.

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Welbeck-street, W.

THE EXAMINATION OF TUBERCULOUS PLEURAL FLUIDS.

By S. ROODHOUSE GLOYNE, M.D. Leeds, D.P.H. Lond.,
PATHOLOGIST, CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, VICTORIA PARK, E.

Numerous observations have now been made on the pathology of tuberculous pleural fluids. In this article I propose to deal only with those tests which appear to be of chief interest and importance in diagnosis, and which, at the same time, can be carried out in the routine work of the laboratory without elaborate apparatus. Most of them can be made with the contents of an ordinary exploring syringe. For convenience in description, serous and purulent effusions will be considered separately.

A. *Serous Fluids.*

1. *Physical examination.*—Tuberculous pleural fluids are usually transparent and of an amber tint. The formation of a more or less tough white clot on standing is common, and often causes the fluid to become solid. Quantitative tests are complicated and for routine work do not give sufficient help in diagnosis. The specific gravity of a puncture fluid is, however, of some use, and broadly distinguishes a transudate from an exudate. Tuberculous fluids being of the latter class give a higher specific gravity than do transudates. In tuberculous fluids I found an average of 1018. Where only small quantities of fluid are available an ordinary 1 c.c. vaccine ampoule cut off short at the neck and fitted with a minute glass stopper makes a rough-and-ready substitute for a specific gravity bottle. Various more or less complicated formulæ exist for working out the percentage of protein from the specific gravity.[1]

2. *Chemical examination.*—Tests for fibrin, protein, proteoses, serosamucin, urea, total solids, acetone, inorganic salts, &c., have all been employed in the diagnosis of exudates. I have tried most of these and find that quantitative estimations of (1) coagulable protein, (2) total solids, and (3) ash are of most value. The results obtained in 12 cases are given in the following table:—

Protein per cent.	Total solids per cent.	Ash per cent.	Protein per cent.	Total solids per cent.	Ash per cent.
6·7	8·2	0·8	5·0	8·0	0·1
4·0	5·75	1·0	4·7	8·0	0·5
5·0	6·25	0·75	2·5	4·0	0·5
5·8	7·5	0·75	5·0	7·1	0·71
6·75	7·7	0·5	4·5	7·0	0·5
5·5	7·5	0·9	5·25	7·0	0·5

The average of these results is: protein, 5·06 per cent.; total solids, 7 per cent.; ash, 0·63 per cent. The amount of coagulable protein is probably the best chemical test for tuberculous fluids, and in most cases is a fairly certain means of differentiating such fluids from transudates, which have a low protein content (usually less than 1·5 per cent.). I have not found it to be a satisfactory test in distinguishing tuberculous fluids from those secondary to malignant disease. It is best carried out by heating the fluid over a water bath, adding a few drops of dilute acetic acid, filtering, washing with boiling distilled water followed by alcohol and ether, and finally drying and weighing. Esbach's albuminometer is not sufficiently accurate. A full account of the more complicated physical and chemical tests will be found in Gruner's valuable work "Studies in Puncture Fluids."

3. *Cytological examination.*—Since Widal and others[2] pointed out the high percentage of small lymphocytes in tuberculous puncture fluids, the question has received much attention, and a detailed description is unnecessary. Films stained with one of Romanowsky stains appear to give the best results, especially if the cells be first washed with saline and sodium citrate solution. In a series of 25 cases of tuberculous effusion I only found one exception to this rule. This was a case of pneumothorax in which tubercle bacilli were present in a non-purulent effusion, but in which the cells were almost all polymorphonuclear cells, although no secondary infection was noted. The exceptions to the rule are probably few. They are: (1) during the first few days of an effusion; (2) in some cases of pneumothorax; (3) in secondary infections. On the other hand, a lymphocyte count may possibly, though rarely, occur in fluids which are not tuberculous (e.g., in transudates of mechanical origin). It is necessary to bear in mind also that various cells may simulate lymphocytes.

4. *Bacteriological examination.*—Microscopical examination of stained film preparations made in the ordinary way is seldom satisfactory, since the bacilli are so few in number. In cases where there is little or no clot, and especially if a large quantity of fluid be available, it is sometimes useful to allow the fluid to stand in a conical test glass for some hours and then centrifuge the deposit. If this method be used as a routine practice it is advisable to add a few cubic centimetres of sodium citrate solution in order to prevent the formation of clot. When a clot is present it is well to examine it carefully, since bacilli and cells are usually caught in its meshes. If it be thin and of delicate mesh it may be spread or teased out on a slide (after a little washing in distilled water), allowed to dry, and stained in the usual way. Sometimes, however, the clot is tough and does not break up or spread out readily. In this case it is well to use some

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[1] O. C. Gruner: Studies in Puncture Fluids, 1908.

[2] E. A. Ross: Cytodiagnosis, Transactions of the Pathological Society, 1907.

digesting fluid. Either artificial gastric juice (Jousset's formula is most satisfactory[3]) or 20 per cent. antiformin has been employed by me. The former appears to digest more completely. A useful modification is to digest the clot *partially* with antiformin (a 20 per cent. solution for an hour at 37° C. will usually suffice), wash for a few seconds in water, and, finally, tease out on a slide. Various more elaborate methods of examination for tubercle bacilli have been suggested, such as passing the fluid through a collodion filter[4] or a Chamberland candle, hardening the clot and cutting sections,[5] or by electrolysis,[6] but they appear to have no advantage over the ordinary methods.

Cultural examinations for tubercle bacilli in pleural fluids are not very useful and are only occasionally made.[7] Animal inoculation is probably the most reliable test of all, but unfortunately it cannot be practised in every laboratory, and, moreover, does not yield sufficiently rapid results to satisfy the clinician. The bacterial findings obtained with 25 serous fluids are shown in the following table:—

Method.	No. of cases.	No. of positive findings.	Percentage.
Films made direct from deposit ...	7	2	28·6
Teased clot	9	2	22·2
Antiformin	7	2	28·6
Artificial gastric juice	16	4	25·0

Unfortunately, owing to small amounts of material obtained, it was not possible to employ every method in each of the 25 fluids, so that the results are not strictly comparable. Altogether bacilli were found in 10 cases out of the 25—i.e., 40 per cent. Cultures were made on ordinary media (both aerobic and anaerobic) in these cases, but no secondary infections were noted.

B. *Purulent Fluids.*

Purulent tuberculous pleural fluids are apparently not so common as serous. Seven only were collected, as against 25 serous ones. These 7 were all cases of pyopneumothorax. In the case of pus physical, chemical, and cytological examinations are not so important. The search for the tubercle bacillus, moreover, is easier. Out of these 7 cases bacilli were found in ordinary film preparations (without previous digestion) in 5 instances. In the 2 negative cases repeated examinations on several occasions failed to reveal bacilli in the one instance, whilst in the other a secondary infection with B. pyocyaneus took place.

Conclusions.

1. The finding of tubercle bacilli is the only conclusive evidence of tuberculous infection. In this series of cases bacilli were found in 40 per cent. of the serous and 71·43 per cent. of the purulent fluids. Ordinary film preparations are satisfactory in purulent fluids, but in serous more careful measures are often necessary. In large effusions without clot sedimentation and centrifugation of the fluid may be sufficient. When present, the examination of clot offers the best hope of finding bacilli.

2. In serous effusions the next best test is the lymphocyte count. Failing this, the tests in order of value are (*a*) protein content (usually 4–5 per cent.) and (*b*) specific gravity (about 1018).

3. Sterility [illegible] of tubercle i[illegible] value in sero[illegible] and most transfusions are also sterile.

4. Secondary infection was only noted in one instance.

I am deeply indebted to the members of the hospital staff for placing these puncture fluids at my disposal.

Victoria Park Hospital, E.

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[3] S. R. Gloyne, THE LANCET, Sept. 21st, 1912, p. 827.

[4] A. Dumpt, Comptes Rendus de la Société de Biologie, vol. lxxiv., 1913.

[5] D'Este Emery, Clinical Bacteriology and Hæmatology.

[6] C. Russ, THE LANCET, July 3rd, 1909, p. 2.

[7] Bezançon and Griffon: Comptes Rendus de la Société de Biologie, February, 1899.

TUBERCULOUS MENINGITIS (BOVINE INFECTION) IN AN INFANT AGED 12 WEEKS.

BY GEO. A. ALLAN, M.B., CH.B. GLASG.,
DISPENSARY PHYSICIAN, WESTERN INFIRMARY, GLASGOW.

THIS case is of special interest on account of the early age at which the disease occurred and of the type of organism found. While it is recognised that a child may in rare cases be born tuberculous and harbour the tubercle bacillus without any obvious sign of its presence for some time, yet as a clinical fact one does not meet with manifestations of the disease, as a rule, within the first three months of extra-uterine life. But in the present instance there is a difficulty in accepting even this explanation of the case in so far that neither father nor mother presents any suspicion of tuberculosis, and the organism was found to be of the bovine type.

A *résumé* of the case was presented to the Glasgow Medico-Chirurgical Society on Feb. 21st of this year, the facts being as follows:—

The child was delivered with the aid of forceps on Jan. 3rd, 1912, evidently healthy and of average weight. One or two superficial abscesses which developed round the areola of one of the mother's breasts were evacuated and healed rapidly, otherwise the confinement was uneventful. For six weeks the child appeared to thrive, but from about this time he did not progress, and the mother on that account supplemented the breast-feeding with two feeds daily of diluted cow's milk. When he was eight weeks old I was called in because of a cough which had developed. There were a few moist râles in the chest, but these cleared up with simple treatment in a few days and did not recur. The mother had plenty of milk and the feeds of cow's milk were stopped. When 11 weeks old his condition began to give serious concern. He was pale, irritable, and seemed little more than his weight at birth. There was no vomiting and the bowels were regular. On the limbs there was an eruption resembling lichen. Two days later the head became retracted and the child cried most of the day. Kernig's sign was not present. [illegible] Next day Dr. Leonard Findlay [illegible] occasionally [illegible] times daily; pupils equal and active, but squint occasionally present; head retracted, but Kernig's sign absent; abdomen flaccid, no glandular masses felt, but liver slightly and spleen markedly enlarged; child fed with difficulty, but not comatose. Lumbar puncture was performed and some cerebro-spinal fluid was withdrawn. It was fairly clear, flowed easily, but could not be said to be under pressure. By evening the child became stuporose, refused food, and had several general convulsions. On March 26th (next day) the stupor deepened and he died that night barely 12 weeks old.

Permission was granted for a very limited post-mortem examination. The enlarged spleen measuring 4 inches by 2½ inches and riddled with small tubercles was removed, along with a small piece of the liver which also contained tubercles. The peritoneal coat of the intestines was also partially examined but no tubercles were seen. The cerebro-spinal fluid had been handed to Dr. Carl H. Browning, director of the Clinical Laboratory, Western Infirmary, to be examined for Wassermann reaction and for tubercle bacilli. The former he reported negative, but found abundant tubercle bacilli with an exudate chiefly of polymorphs. Dr. J. Cruickshank, who made further examination of the organism for him, reported to the society that he obtained cultures directly from the fluid. These he considered conformed more to the human type of organism, but on careful inoculation tests were shown to be of the bovine type.

Dr. W. Blair M. Martin, University lecturer on bacteriology, kindly examined the spleen for me, and his report is as follows:—

The spleen was much enlarged and firm in consistence. Its maximum dimensions were 4 inches × 2½ inches × 1¼ inches, and it weighed 6¼ oz. Its surface was studded with numerous greyish-white tubercles, for the most part discrete and of the size of large pin-heads, but at places confluent, forming areas about one-quarter of an inch in diameter. As seen on section, it was studded throughout with caseous tubercles which quite obscured the normal markings of the organ. In stained microscopical preparations the striking features are the absence of normal Malpighian bodies and their replacement by cario-necrotic zones of varying size which correspond with the greyish-white areas seen on naked-eye inspection. Giant-cell formation is scanty, the few that are present being apparently derived from the hyperplastic connective tissue of the sinuses. Very little lymphoid tissue remains in the spleen.

Only a small portion of liver was obtained. It showed numerous tubercles both beneath the capsule and throughout the organ. The liver tubercles are smaller than those in the spleen and on section are less necrotic, but in preparations stained by the Ziehl-Neelsen method they show more numerous tubercle bacilli, which are of the long, beaded type. Much's method of staining did not reveal a notably larger number of organisms in the lesions.

A tube of Dorset's medium was inoculated with a selected portion of spleen tissue. A scanty moist growth, which did not become luxuriant even after three months' incubation, slowly appeared. A subculture on a second tube of Dorset's medium gave a similar moist unheaped growth, well-grown within five weeks and not apparently increasing beyond that time. In films both cultures were proven to be pure cultures of acid-fast bacilli.

A small portion of spleen was emulsified with normal saline solution and injected subcutaneously into the groin of a guinea-pig. The animal died in 16 days. On examination an extensive "cold abscess" was found at the site of inoculation; the axillary, the inguinal, the mediastinal, and the retroperitoneal lymphatic glands were enlarged, and all contained minute tuberculous foci; the spleen was slightly enlarged, but no tubercles were visible in it; and there were no obvious lesions elsewhere in the body. Films made from the groin pus showed fairly well-preserved cellular elements, chiefly polymorphonuclear leucocytes, and numerous tubercle bacilli, many being intracellular. A rabbit intravenously injected with 1 minim of this groin pus died in 24 days from acute miliary tuberculosis. Tubes containing agar, Dorset's and Lubenau's media, were inoculated with the groin pus. No growth resulted on agar; three isolated colonies of acid-fast bacilli alone developed on Lubenau's medium; but on Dorset's medium an extensive moist growth slowly developed and attained its maximum within two months. Subcultures from this latter culture were made on both Dorset's medium and on Lubenau's medium, but Dorset's medium uniformly yielded the better growths. The strain was maintained in subcultures on Dorset's medium, the type of growth persisting as dysgonic. After nine months' artificial cultivation the pathogenicity was again tested on rabbits. 1 mgm. of moist culture from a two months' growth on Dorset's medium was weighed out and emulsified in 50 minims of normal saline solution. 5 minims of this bacillary emulsion (equivalent to 0·1 mgm. of moist culture) were injected intravenously into a rabbit. It died in 20 days with the lesions of acute miliary tuberculosis. 2 minims of the same bacillary emulsion were injected into the left knee-joint of another rabbit (Fraser's procedure). The animal was killed 39 days later. Save for a swollen and permanently flexed left knee-joint it appeared in good condition. On examination there was found to be a marked tuberculous arthritis of the left knee-joint with much peri-articular infiltration. The left inguinal glands were slightly enlarged. The lungs were studded with medium-sized centrally caseated tubercles. The spleen and kidneys also showed a few small tubercles, but the liver and mesenteric glands were free.

The foregoing data regarding growth on culture media and pathogenicity all indicate that the infecting agent in this case was the bovine type of tubercle bacillus. (The expenses of this pathological investigation were defrayed by a grant from the Carnegie Trustees.)

There is thus no doubt, then, that we are dealing with a bovine infection at this unusually early age. There remains to be considered the source of the infection. The father, mother, and only other child in the family have always been, and still are, perfectly healthy. An adopted boy, however, is not strong, and shortly after the death of the child had to have tuberculous glands removed from his neck. The operation, however, was performed in hospital, and did not come to my knowledge till afterwards. The infant was really breast-fed. Only after it had begun to show signs of malnutrition was that augmented by cow's milk, and then only for about a fortnight. There seem no sufficient grounds for supposing that the milk was the direct source of infection. The mother was suspicious of something being wrong before the milk was tried, and one must presuppose a very virulent infection to have caused death in six weeks after that event.

One can only speculate. Lymphatic gland infection is known to be frequently due to the bovine type, and presumably the entrance was from some part of the oral cavity. Koplik, in an article in the *Johns Hopkins Hospital Bulletin*, April, 1912, reviews the subject of tuberculosis in infancy and gives his "unreserved support to the contention," put forward by Escherich and his school, "that in a great percentage of cases infection can be traced to a person infected with tuberculosis who had been in the immediate vicinity of the infected child." It seems reasonable to suppose, though incapable of proof, that the adopted child was the source of infection in this case, he being the subject of a bovine infection of his cervical lymphatic glands, with a focus somewhere in his oral cavity.

Glasgow.

THE FREE AIR TREATMENT OF SKIN GRAFTS.

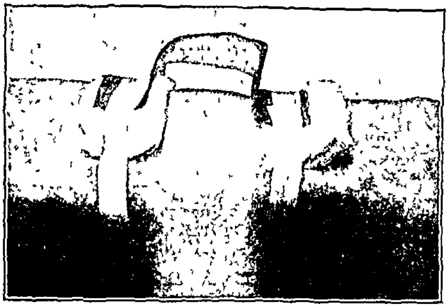
BY A. ROCYN JONES, M.B., B.S. LOND., M.R.C.S. ENG.,
SENIOR HOUSE SURGEON AT THE ROYAL NATIONAL ORTHOPÆDIC HOSPITAL.

THE annotation which appeared in THE LANCET of June 14th last, p. 1682, with reference to a recent article upon Skin Grafting Without Dressings in the *Journal of the American Medical Association* and the subsequent letter of Mr. G. Lenthal Cheatle[1] are of interest. In 1907 a similar method, based on a short description by Nélaton and Ombrédanne,[2] was adopted by Mr. E. Muirhead Little at the Royal National Orthopædic Hospital. For some years previous to this he had applied dry dressing upon the grafts, but for the last six years a different technique has been carried out in all the cases where it has been found necessary to perform skin grafting.

The following is an account of the procedure.

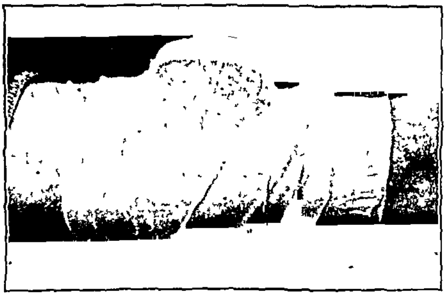
Thiersch's grafts are applied to the raw area in the ordinary way, but no protective or dressing of any kind is allowed to remain in contact with the grafts. The next step is the application of a cage of wire and cotton gauze surrounding, but well away from, the grafts. A reference to the illustrations will facilitate the description. A strip of wire gauze, broader than the area to be covered, is cut and fashioned so that it forms a bridge stretching well beyond the extremities of the grafted surface. The bridge, previously boiled, is put with its flanges resting on a layer of wool placed above and below the area, and is secured thus by strapping passing over each flange to the skin beyond. Over this structure two or three layers of sterilised cotton gauze are placed so as to form a complete cage for the grafts, taking care to fix the soft mesh only near its borders, this being done by several turns of bandage. By this means air is allowed to circulate freely through the gauze and over the grafts, thus promoting drying of the parts, whilst good protection is afforded from minor accidents, as dust or flies. An ordinary bed cradle is placed over the cage, and in the case of the lower limb it is well to separate the clothes at the bottom of the bed to permit free access of air. The cage is untouched until the fifth day after operation, when the bandage is removed and the soft gauze raised, but leaving the wire bridge intact. By this time black crusts will have formed between the edges of the grafts, and the appearance is often somewhat unpromising. With a sterile forceps the crusts are carefully picked off without doing the slightest damage to the new tissue. No attempt is made to wash or apply lotion to the parts. The bridge is left untouched during the whole of the after treatment, and after the crusts are removed fresh cotton gauze is applied and bandaged as before. In another three or four days further crusts may have to be dealt with, but the necessity for this gradually diminishes. In three weeks healing is usually complete.

FIG 1.



To illustrate mode of applying the bridge of wire gauze.

FIG. 2.



The cage complete.

We have found this treatment remarkably successful. Of 26 consecutive cases, in two only has it been found necessary to repeat the operation, although our experience here has been limited to fairly clean cases, and chiefly to those in which Mr. Muirhead Little's[3] modification of Phelps's operation has been performed. Wiener,[4] on the other hand, at the Mount Sinai Hospital, New York, has had the most gratifying results even with patients where there were discharging sinuses right in the area to be grafted. He packs the suppurating sinuses with iodoform gauze, and changes the packings as often as they become saturated with the discharge, without disturbing the grafts. Nélaton and Ombrédanne and Brüning[5] also speak well of it, the last insisting that good exposure to the air is the secret. Weischer,[6] however, rejects the principle, asserting that strict asepsis cannot be maintained by the free air method in the after-treatment. He adopts active treatment by applying a dressing of gauze soaked in warm saline, and insists that the grafts should never be allowed to dry, but kept moist. His technique has been chiefly used in scalp wounds and he does not appear to have given the free air plan an extended trial.

Bruning and Wiener dispense entirely with a cage, the parts being freely exposed to the naked eye. Wiener states that in grafts on the extremities the leg or arm is swung free from the bedclothes, and in the case of the trunk a cradle to keep off the bedclothes is all that is required. He does not touch the new tissue until seven or eight days after operation, when a weak ichthyol ointment is applied over the entire surface, the crusts dropping off under this dressing. As already mentioned, we prefer to use a cage and pick the crusts off with forceps, without applying anything upon the grafts. Benson,[7] who in THE LANCET in 1896 described an ingenious tin cage, places protective over the surface and maintains pressure for five or six hours, when he removes the protective and applies an antiseptic cage. Each day he douches the grafts with a 1 in 2000 perchloride of mercury solution. He has had excellent results and strongly praises this treatment, but in our experience neither the protective, in the early stage, nor the subsequent douching is necessary.

We may sum up the advantages of the method we use as follows: (1) its simplicity; (2) the infrequent dressing; (3) the grafts having no dressing in contact are less liable to be disturbed; (4) a perfectly dry surface is maintained; and (5) its remarkably uniform success.

I am indebted to Mr. Muirhead Little for a knowledge of this method and for the use of the records of his cases.

Bibliography.—1. THE LANCET, June 21st, 1913, p. 1763. 2. Les Autoplasties, par Ch. Nélaton et L. Ombrédanne (G. Steinheil, Paris, 1907). 3. Phelps's Operation for Club Foot, paper read in the Section of Surgery at the Annual Meeting of the British Medical Association.

Swansea, July, 1903, by E. Muirhead Little, and reported in the Brit. Med. Jour., Oct. 17th, 1903. 4. Skin Grafting without Dressings, Joseph Wiener, M.D., Journal of the American Medical Association, May 17th, 1913. 5. Ueber offene [illegible] von Dr. Med. F. Brüning, Z[illegible] 6. Ueber die [illegible] Weischer, Z[illegible] 7. The Treatment of Burns, C[illegible] by the Antiseptic Cage, J. R. Benson, THE LANCET, Nov. 14th, 1896, p. 1373.

EYE COLOURATION IN RELATION TO THE INCIDENCE, SEVERITY, AND FATALITY OF SCARLET FEVER AND DIPHTHERIA.

BY A. L. DYKES, M.D. EDIN., D.P.H.,

LATE SENIOR ASSISTANT MEDICAL OFFICER, PLAISTOW FEVER HOSPITAL.

THE subject of this paper was suggested to me by Dr. J. Biernacki on the ground that children with light eyes appear on the average to be more susceptible to severe diphtheria and more likely to die. The statistics on which it is based were collected at Plaistow Fever Hospital during the year 1912–1913. Several observers have shown that there is a relation between susceptibility to disease and pigmentation. Dr. F. C. Shrubsall[1] found that epilepsy and skin diseases were more common in the brown-eyed, while acute rheumatism more frequently attacked light-eyed people. Similar observations by Dr. David McDonald[2] demonstrated a correlation between pigmentation and susceptibility and recuperative power in the acute fevers amongst the school children of Glasgow. Scarlet fever was also included in the present observations, which were confined to the eye. It will be remembered that there are two kinds of pigment in the iris.[3] One, the stroma-pigment, varying greatly in amount in different individuals, lies in the branched cells of the stroma; the other, the retinal pigment, fills up the epithelial cells of the retinal pigment layer, and is fairly constant.

Stroma-pigment is brown in colour, and when it is deficient the iris appears blue or grey, according to the delicacy or coarseness of the stroma-fibres which allow the retinal pigment to become visible. Eyes which contain much stroma-pigment are dark brown, the retinal pigment being quite hidden. Between the blue or grey and the brown there are many shades of colour, varying with the amount of the stroma-pigment. C. C. Hurst[4] divided the eye colours into two chief groups. Those containing no visible stroma-pigment he classed as "simplex," and grade from blue to grey. Eyes containing visible stroma-pigment in addition to retinal pigment were termed "duplex." In this group are included eyes which at first glance appear grey or blue, but on closer inspection are seen to contain stroma-pigment, however small in amount; also brown or dark eyes which contain so much of it that the retinal pigment is quite obscured, together with all shades between these extremes. This classification has been adopted in forming three main divisions of eye colour.

Group 1. The simplex type.—This includes blue and grey and all shades of greyish-blue in which no visible stroma-pigment is present. No attempt has been made to separate blue simplex from grey simplex, as shades of the one merge into the other.

Group 2. Duplex medium.—This group contains eyes in which both kinds of pigment can be seen. The visible stroma-pigment may be small in amount surrounding the pupil and forming a brown ring, or, more frequently, it is seen as little brown spots scattered over the iris, the background in both cases being grey or blue; when these spots are very numerous and close together the colours blend to give the iris a greenish hue.

Group 3. Duplex dark.—Eyes of this group have so much stroma-pigment that the retinal pigment is hidden and the iris appears brown or dark brown.

These groups are very definite, and one had no difficulty in deciding to which of them an eye belonged. All observations were taken during daylight. For purposes of comparison the eye colours of a thousand children attending school near the hospital were taken. Their ages varied from 4 to 12 years. Bearing in mind the fact that as age advances the colour of the iris tends to darken, an endeavour was made to include a sufficient number at each age-period in order to approximate the age-constitution with that of the hospital patients. The following results were obtained:—

Total number of school children.	Eye-colour simplex.	Eye-colour duplex medium.	Eye-colour duplex dark.
1163	347	418	398
Percentage 100.	29·8%	35·9%	34·3%

It is seen that the medium duplex slightly exceed in number the dark duplex, while the simplex form the smallest group. Compare these figures with those obtained from 679 cases of scarlet fever. In scarlet fever the dark duplex eye is relatively less common than in the general population; simplex and medium duplex are both in excess to about the same extent. The differences, however, are not great, and might not hold for larger groups.

Scarlet Fever.

	Number of cases.	Percentage.	Percentage severity.	Number of deaths.	Percentage fatality.	General population percentage (for comparison).
Eye-colour simplex ...	219	32·3	21·0	7	3·2	29·8
Eye-colour duplex medium	261	38·4	15·7	5	1·9	35·9
Eye-colour duplex dark	199	29·3	15·5	3	1·5	34·3
Total number of cases	679	100·0	17·2	15	2·2	100 0

For statistical purposes, those cases of scarlet fever were termed severe which had a definite complication such as otorrhœa, septic throat, arthritis, nephritis, marked adenitis, &c. Cases having marked pyrexia, toxic cases, and fatal cases were also included in this group. It would appear that scarlet fever is more frequently severe, and has the highest mortality in simplex-eyed children.

In diphtheria the colour selection was found to be more striking. In this disease cases which were markedly toxic and also fatal cases were tabulated as severe.

In diphtheria simplex-eyed children are definitely in excess as compared with the general population, while duplex-eyed children are in a minority, more marked in the case of the dark duplex type. The

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[1] The Anthropometric Investigation of Hospital Patients, Brit. Med. Jour., December, 1904.

[2] Pigmentation of the Hair and Eyes of Children Suffering from the Acute Fevers, Biometrika, July, 1911.

[3] Fuchs's Ophthalmology.

[4] Proceedings of the Royal Society, vol. lxxx.

Diphtheria.

—	Number of cases.	Percentage.	Percentage severity.	Number of deaths.	Percentage fatality.	General population percentage (for comparison).
Eye-colour simplex	98	38·1	37·1	10	10·2	29·8
Eye-colour duplex medium	84	32·6	29·7	4	4·7	35·9
Eye-colour duplex dark...	75	29·3	25·3		2·6	34·3
Total number of cases	257	100·0	31·5	16	6·2	100·0

fatality and severity rates are highest in the simplex and lowest in the dark, the medium duplex taking up an intermediate position.

Oldham.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF HAIRBALL IN THE INTESTINE.

By W. B. Hill, M.D., B.C. Vict., D.P.H. Oxon.,

PATHOLOGIST TO THE CROYDON MENTAL HOSPITAL.

The following case appears to me to be worthy of publication in The Lancet, as the presence of hairballs in the human alimentary canal is not a condition of common occurrence.

The patient was a woman, aged 66, who was admitted into the Croydon Mental Hospital on Sept. 26th, 1912. Her mental condition was one of *agitated melancholia, with systematised delusions* of a persecutory nature. She was in a poor state of health, being markedly anæmic and wasted. The abdomen was very pendulous and somewhat distended, but it moved well on respiration. A mass about the size of a tangerine orange could be felt in the right iliac region. It was freely movable, painless on manipulation, and did not appear to have any deep connexions. The percussion note was tympanitic all over the abdomen, and neither the liver nor spleen was palpable. Rectal examination was negative and after a simple enema the bowels acted normally. There was no vomiting. The pulse was small and very irregular, cardiac dulness increased to the right, the apex beat was half an inch outside the nipple line, and there was a double murmur at the apex. The patient also had chronic bronchitis with emphysema. There was no œdema of the extremities. She died suddenly in a heart attack a few days later.

Post-mortem examination.—The lower 3 feet of the ileum were strongly adherent to the lower part of the anterior abdominal wall. The right ovary and Fallopian tube were also firmly fixed in the adhesions surrounding the gut. Situated in the ileum about 5 inches from the ileo-cæcal valve was a mass occupying the lumen of the gut and about 4 inches in length, which on palpation gave the impression of being fæcal in nature. On opening the ileum this was found to consist entirely of hair of a reddish-brown colour, the strands of considerable length. The proximal portion of the ileum and the lower two-thirds of the jejunum were considerably distended. The ascending and descending colon and sigmoid were packed with scybala. The right ovary was enlarged to about twice its normal size and contained sebaceous matter, hair and teeth.

The hair was probably from the woman's own head, for her friends stated that when younger her hair was very light brown in colour. This being so the "ball" had probably been impacted in the intestine for some years.

I have to thank Dr. E. S. Pasmore, superintendent of the hospital, for permission to publish this case.

Warlingham, Surrey.

A CASE OF SUDDEN DEATH: TUMOUR OF THE PITUITARY BODY.

By J. D. R. Monro, M.D. Glasg.

The following case may perhaps be considered sufficiently interesting for insertion in The Lancet.

On Sept. 7th I was summoned urgently to see a young man, 20 years of age, who was said to be suffering from severe headache. On arrival I found the patient in bed propped up with pillows. The history given by his mother was that he had had headache on and off for ten days, but had been able to remain at his work until the previous day. It was elicited that when he got up on the morning of my visit he had vomited, and his headache was so severe that he had returned to bed.

On examination I found the pupils dilated with a very slight response to a strong light. The pulse was 60 and soft, and the temperature was 100·6° F. By shouting to him I was able to make him understand my questions. He said he had a very bad headache. He then vomited and fell back on the pillow in a condition of semi-coma. I made a provisional diagnosis of meningitis, and ordered ice to the head and a smart purge. Two hours later I was again summoned, but on my arrival found the patient dead.

The post-mortem examination was made on Sept. 9th. The heart and lungs as well as the abdominal viscera were quite healthy. As the brain was removed the pituitary body was seen to be much enlarged. It was about the size of a cherry, and weighed about 75 grains. On section it appeared not abnormal in structure, but it was œdematous and had one or two small cysts in its interior. The meninges were œdematous, and the ventricles distended with fluid.

The most striking point about this case was the fact that the young man was able to attend to his business on the day before he died, and his parents did not think of getting medical advice about him until two hours before the end.

Muswell Hill, N.

NOTE ON A CASE OF TUBERCULOSIS OF PERITONEUM COMPLICATED BY A STRANGULATED UMBILICAL HERNIA.

By G. W. Spencer, M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond.,

HOUSE SURGEON TO ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

The following note I take to be of interest owing to the rarity of an umbilical hernia becoming strangulated in a child.

On April 16th last a boy, aged 15 months, was admitted to Addenbrooke's Hospital, under the care of Dr. Joseph Griffiths, with the following history.

On March 26th the abdomen had become distended and the boy had cried during micturition. On April 9th a "swelling came through the navel, when crying, which could be easily pushed back." A pad and bandage had been applied which prevented the swelling coming through. On the 13th the child became "queer in hinself," crying and fretting, but not sick, and his bowels moved naturally. The swelling rapidly increased in size on the 14th and became red and inflamed, and distension of the abdomen followed. At 5 P.M. on the 16th the swelling burst, but no notice was taken until 7 P.M., when ground rice came through the opening, the boy having been fed three hours previously.

On admission to hospital at 8.30 P.M. the abdomen was very distended. The umbilicus was protruded and the surrounding skin was red and inflamed. Immediately above the umbilicus there was a small opening through which fæces were being discharged. Temperature 100·4° F. and pulse 134. Fomentations were applied and feeds per rectum administered. Later, fluids were given by the mouth. On two occasions charcoal was given with the feed, and 3½ and 3¾ hours respectively elapsed before it made its appearance at the opening. The patient progressively lost weight and soon became very thin.

On May 22nd the abdomen was opened in the middle line, and the peritoneum was found to be studded with miliary tubercles; in addition a mass of tuberculous mesenteric glands were found to which the intestines were firmly adherent. It was considered impracticable to unravel them or satisfactorily close the opening in the bowel. After this even rectal feeds were discharged through the opening, and the patient died on June 1st—47 days after admission.

Post-mortem examination.—The parietal peritoneum and surface of gut were found to be studded with miliary tubercles. Coils of the ileum and the transverse colon were adherent to each other and to the mass of mesenteric glands. The perforation of the gut had occurred in the middle of the transverse colon. This piece was excised and examined microscopically, but no sign of a tuberculous ulcer was seen at the site of perforation. The enlarged mesenteric glands were also examined. Tubercle bacilli were found in small numbers. An intraperitoneal injection of an emulsion of the glands caused the death of a guinea-pig from general tuberculosis in 43 days. The kidneys, spleen, liver, and lungs were normal.

Cambridge.

Central Midwives Board.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Nov. 20th, with Sir Francis H. Champneys in the chair. A letter was considered from the Clerk of the Council transmitting a copy of a note from the Foreign Office from the Norwegian Chargé d'Affaires in London requesting certain particulars respecting the training of midwifery pupils in the United Kingdom, and asking the Board to furnish a memorandum thereon. The Board decided that the reply as drafted by the chairman be approved and forwarded to the Clerk of the Council. A letter was considered from one of the Board's examiners calling attention to the ineffective training of a large number of the candidates for the Board's examination owing to the apparent absence of any system of classes at which questions may be asked and explanations given. The Board directed that the substance of the letter be communicated to all the examiners with the request that they will give the Board their comments upon it, the writer's name being suppressed and "examiner" being substituted.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF THE HISTORY OF MEDICINE.

The Visions of St. Hildegard in their Medical Aspect.—The Medical Aspects of the Greek Anthology.

A meeting of this section was held on Nov. 19th, Sir Henry Morris, Bart., Vice-President, being in the chair.

Sir Henry Morris drew attention to the volume of the portraits of Dr. William Harvey published by the section since its last meeting, and suggested that each member of the section should buy a copy.

Dr. Charles Singer made a communication in respect to the Visions of St. Hildegard in their Medical Aspect. Hildegard, he said, was born at Boeckelheim in 1099 and died at Rupertsberg, opposite Bingen, in 1179. At the age of 8 she was placed in the hands of Jutta, a female recluse who lived on the Mount of St. Disibode, a few miles from Bingen on the banks of the Nahe. Jutta gradually collected a number of pious women and thus formed a nunnery. She died in 1136 and Hildegard took her office as prioress, but in 1149 she and some of her nuns migrated down the Nahe to Rupertsberg on the Rhine, where a second convent was built, and here she passed the rest of her life. Hildegard was a woman of extraordinarily strong and original character. The freedom and the terms with which she denounced even the Emperor Barbarossa himself as well as the visions she saw and the general setting of her life are not unlike those of the Hebrew prophets. She enters, said Dr. Singer, the field of the history of science by reason of several scientific works, some written by and others attributed to her. The "Physicas" is a collection of the scanty scientific knowledge of the twelfth century, and is of especial medical interest because it contains a description of the nature and uses of herbs. It is also remarkable on account of the sound hygienic teaching it contains. The "Liber simplicis hominis" gives valuable glimpses of the physiological conceptions prevalent in Germany in the twelfth century. Another work, "De Causis et Curis Morborum," attributed to St. Hildegard, is regarded by Dr. Singer—contrary to the generally accepted opinion—as spurious and probably collected early in the thirteenth century after Hildegard's death. The main interest in Hildegard centres round her work "Scivias"—a name she herself invented and subsequently declared to be a shortened form of "Scitovias Domini." This beautiful composition is full of moving and inspiring passages, and breathes a depth of spiritual understanding rare in any age. Medically, it is specially interesting from the fact that much of the text is presented in the form of visions. These visions are magnificently illustrated in a contemporary manuscript which is now at Wiesbaden. It was almost certainly prepared under Hildegard's personal supervision. Dr. Singer exhibited photographs and coloured illustrations which showed that the primary physical basis of the visions was migraine or scintillating scotoma. The miniatures exhibit typical fortification figures, stars, coloured spots, and in some cases a shimmering concentric appearance occupying the whole field of vision. There is also evidence from Hildegard's writings that in spite of her active and energetic life she had very poor health and suffered from a migrainous affection. Some of her visions present the interesting phenomenon of reintegration of other visions. In one instance Dr. Singer was able to demonstrate the separate elements out of which such a composite vision had been built.—Dr. R. Hingston Fox, speaking as a personal sufferer from migraine, thought Dr. Singer had proved his case. He suggested that the blue colours in the pictures were as important as the red, both these hues, as well as others, being characteristic of migrainous spectra. St. Hildegard's imagination, highly stimulated by spiritual influences, would make her symptoms vivid, and associating them with heavenly visions, she would fix her attention upon them until they could be depicted in the forms shown to us.—Dr. Raymond Crawfurd and Dr. Leonard G. Guthrie took part in the discussion, and Dr. Singer replied.

☞ Dr J D Rolleston read the first part of a paper on the *Medical Aspects of the Greek Anthology* Although the anthology had received much less attention than the Roman poets from medical historians, there were altogether about 400 epigrams out of a total of nearly 4000 which dealt more or less directly with medical subjects They extended over a period of nearly 15 centuries but the great majority were by writers subsequent to the establishment of the Roman Empire Most of the medical epigrams were to be found in the Palatine collection especially in the fifth, sixth, seventh, ninth, tenth, twelfth and fourteenth sections, but there were also some in the Planudean collection and in the appendix The paper was chiefly devoted to a consideration of the medical men concerned with the anthology either as contributors or as the subject of the poems At least five of the contributors were medical men, and probably some of the anonymous epigrams were by doctors The epigrams on medical men were divided into (1) panegyrics and (2) satires The first group included epitaphs and other verses on the natural philosophers and physiologists who formed one of the principal sources of Greek medicine prior to Hippocrates, as well as similar epigrams on distinguished physicians such as Hippocrates, Galen, Asklepiades, and Praxagoras and medical writers such as Nicander, Paulus Ægineta and Marcellus of Side Of the 20 doctors who formed the subject of the satirical epigrams, 14 were not spoken of by any other writer, and of the remaining 6 none could be identified with certainty The satires were mostly the work of late writers and like the epigrams of Martial were justified by the inadequate medical training due to the dissemination of the doctrines of the Methodist school Consideration of the numerous other medical allusions in the anthology was deferred to the next meeting *—Professor Richard Caton spoke upon the paper*

Dr Crawfurd showed a collection of "Touch pieces," and gave a short account of their history in connexion with the cure of the king's evil

Dr F W Cook showed an interesting collection of old surgical instruments, including a ritual circumcision knife

SECTION OF DERMATOLOGY

Exhibition of Cases

A MEETING of this section was held on Nov 20th, Dr J J Pringle, the President, being in the chair

Sir Malcolm Morris and Dr S E Dore showed a case of Lupus Erythematosus with some unusual features—viz, the presence of itching in association with the eruption of the face, scaly patches on the chest and inguinal folds, a patch resembling psoriasis on one elbow, and lesions on the tongue and buccal mucous membranes —Dr G Pernet regarded the condition as lupus erythematosus, a view with which Dr H G Adamson agreed, but the President [illegible]

Pernet thought was the adult form of urticaria pigmentosa but Dr A Whitfield considered it to be a disease *sui generis* of which he had seen two cases —Dr A Eddowes suggested that it was an infection of sweat ducts —The President, who had observed two similar cases, thought the presence of dermographism and the pigmentation brought it within the limits of *adult urticaria pigmentosa*

The President brought forward a case of Mycosis Fungoides in a woman aged 40 years The disease began in February, 1912 during puerperal fever, and the patient first came under observation as a *femme rouge* with universal erythrodermia, complete loss of hair marked enlargement of spleen and lymphatic glands without leucocytosis, typical extensive lichenification, deep pigmentation, and a very small number of tumours Points of special interest were the reappearance of hair on the scalp eyebrows, and eyelashes, when the erythrodermia and infiltration diminished, despite fresh manifestations elsewhere

Dr Adamson showed another case of Mycosis Fungoides of five years' duration in a woman aged 65 She presented rounded plaques on the skin, but no tumours There was no leucocytosis She had had 40 doses of X rays in six weeks —Dr D Vinrace asked for information as to the X ray treatment of such cases *—The President said he had a patient* under his care who had been treated by X rays at very short intervals over a period of 15 years, the disease being thereby kept in abeyance —Dr Dore expressed the opinion that frequent repetition of the X rays was often imperative on account of the large areas of skin usually involved, the rapid progress of the disease, and the presence of commencing lesions under apparently healthy skin

Dr D Walsh exhibited a case of Epidermolysis Bullosa in a boy aged 15 associated with congenital morbus cordis —Dr Wilfrid S Fox said he had seen an acquired case of this disease —Dr J M H MacLeod said there were records of acquired cases, *although it was doubtful if they were true* epidermolysis bullosa He could not understand how congenital morbus cordis should stand in any relation to such a condition —Dr R A Bolam (Newcastle) and Dr F Parkes Weber could not detect any evidence of *abnormality in the* heart —Dr J A Nixon (Bristol) suggested a possible connexion between the Raynaud phenomena and the epidermolysis —The President believed that low grades of the condition were common, and he was acquainted with several families the members of which blistered with abnormal facility The case was referred to a subcommittee for report

Dr Dudley Corbett gave a demonstration of a new Radiometer, an instrument for measuring the tint of the Sabouraud pastille which was now in daily use at St Thomas's Hospital —Dr Whitfield, Dr MacLeod, Dr J H Sequeira, and Dr Agnes Savill confirmed the great utility of the apparatus

Dr Haldin D Davis exhibited an infant 10 weeks old with extensive Psoriasis, and mentioned two similar recorded cases of three and ten weeks' duration respectively —Dr MacLeod said he had shown a similar condition in an infant 4 weeks old which had recovered rapidly under treatment, a fact which suggested the diagnosis of seborrhœic eczema —Dr Whitfield asked if the scales had been examined microscopically for seborrhœic organisms *—Dr Adamson* said he called these cases seborrhœic dermatitis and had observed them in association with that disease in the mother

Dr Pernet showed an instance of Dermatitis Artefacta in a young woman who presented circular patches on the chest and back

Dr Sequeira showed a girl with a very extensive and severe Eruption of Tuberculides, the lesions of the upper limbs being of small type and those of the lower limbs of large type The condition followed a septic wound and tuberculous glandular swellings The patient had never been free from lesions for seven years and had been treated with a course of tuberculin for three and a half years —The President and Dr Whitfield discussed the value of tuberculin in such cases, and Dr MacLeod asked for a report of a biopsy and inoculation of a guinea pig, as he considered that these cases were true tuberculous infections

Dr Sequeira also showed a case of Lichen Verrucosus in a farm labourer, aged 43, of five years duration who presented warty growths of large size symmetrically distributed on the extensor aspects of the fingers hands, and legs —The case gave rise to much discussion and the President, while admitting the resemblance of the patches on the legs to lichen verrucosus, hesitated to accept the diagnosis —Dr. *Adamson regarded the case as of erythema multiforme type* —Dr Heath had seen it previously when the lesions were much more erythematous and not horny on the surface —Dr A M H Gray had had two somewhat similar cases, one of which he regarded as erythema elevatum diutinum, and another in a child associated with rheumatic nodules —Dr [illegible] dition on the knees resembled [illegible] an early lesion which did not [illegible]

Dr Sequeira also showed a case to illustrate the Luetin Reaction This was not present in florid cases of syphilis but he had found it in one primary case and in one instance in which the Wassermann reaction was negative but which had improved under antisyphilitic treatment —The President understood that the luetin reaction was inconstant and unreliable —Mr J E R MacDonagh said it was of no value in primary cases, and the same reaction could be obtained with many other substances

Dr Whitfield showed a case of Xanthoma Tuberosum in a woman aged 53, of two years duration

Dr E Eddowes showed a case of Lupus Erythematosus *affecting the scalp and face* of a young girl in which regrowth of hair with altered pigmentation had taken place on a patch on the scalp

Dr. GRAHAM LITTLE showed: (1) A case of a very Severe and Extensive Tubercular Syphilide which presented a considerable resemblance on the face to elephantiasis græcorum; and (2) a woman, aged 67 years, with Hypertrophic Lichen Planus of four years' duration, one of the masses having ulcerated. Histological examination confirmed the diagnosis of lichen planus and negatived that of malignancy.

SECTION OF OTOLOGY.

Exhibition of Apparatus and Cases.

A MEETING of this section was held on Nov. 21st, Mr. RICHARD LAKE, the President, being in the chair.

Dr. W. H. KELSON brought forward a new Eustachian Bougie, the instrument consisting of a sliding scale to which the bougies were attached. It was so arranged that the distance which the bougie projected beyond the end of the Eustachian catheter was automatically marked on the scale. The whole apparatus was made of metal, hence it was easily sterilised by boiling; but gum-elastic bougies could be used if desired.—Several members discussed the appliance, some seeing possible danger of perforation with the finer varieties of a metal instrument.

Mr. FRANCIS F. MUECKE showed a case of Lateral Sinus Thrombosis of very severe nature, with pyæmia and other manifestations, which recovered after an illness of 14 weeks. The following is a brief outline of the case. The patient, a man aged 46, was admitted to the Eastern Fever Hospital as a case of typhoid fever, but the Widal test showed it was not that disease, and he was transferred to London Hospital. Nine weeks previously he had severe ear-ache on the left side, followed by a discharge which continued nearly two months. With its sudden cessation he had what was described as a bilious attack, which increased in severity, and he developed stiffness and pain on the left side of the neck. On admission to London Hospital his temperature was 102·5°F., the pulse being 100. The patient complained only of his neck; there was no headache, nausea, mastoid redness or tenderness, nor auricular displacement. A bead of pus was observed exuding through a small perforation in the upper half of the drum, and the neck presented a diffuse, red, tender swelling along the course of the internal jugular vein. The blood contained an increased number of polynuclear neutrophiles and large hyaline cells, and from a finger puncture a pure culture of streptococci was obtained. The cerebro-spinal fluid was normal. At the operation the bend of the lateral sinus was found to be gangrenous, and the vein was thrombosed practically from the torcular to the innominate vein. The internal jugular was ligatured below the clot, and the upper part dissected out and stitched to the upper angle of the incision. Much clot was removed by syringing, and it was found to be teeming with streptococci. A week later streptococci were still found in the blood, though the patient was doing well, the only untoward sign being an evening rise to 102°. Three days after the operation an autogenous vaccine was injected, and on five subsequent occasions determined by a marked rise in temperature. There was a drop in the fever following each injection. Ten days after operation the blood was reported sterile. Twelve days later the left popliteal vein was thrombosed, and four days afterwards the right popliteal was similarly affected. Then followed great pain over the right kidney, and blood and pus were seen in the urine next day. A sequel of this was cystitis and left epididymo-orchitis, and this in turn was followed by acute peritonitis. Mr. R. Warren performed laparotomy, and this marked the commencement of definite recovery. Mr. Muecke expressed his indebtedness to Mr. Hunter F. Tod for permission to show the case.

Mr. MUECKE also showed a case of Lateral Sinus Thrombosis with Paralysis of External Rectus.

Mr. G. J. JENKINS exhibited microscopic sections of a series of Endotheliomata.

PATHOLOGICAL SECTION.

The Primary Cause of Rheumatoid Arthritis.—The Pathogenicity of an Organism isolated from Non-ulcerating Cancerous Growths.—Mutation of Bacteria.

A MEETING of this section was held on Nov. 18th, Dr. W. S. LAZARUS-BARLOW, Vice-President, being in the chair.

Dr. H. WARREN CROWE read a paper on the Primary Cause of Rheumatoid Arthritis, which was published in full in THE LANCET of Nov. 22nd, p. 1460.

Dr. E. P. MINETT contributed a paper on the Pathogenicity of an Organism isolated from Non-ulcerating Cancerous Growths. He came to the following conclusions: 1. The micrococcus neoformans was identical with that type of staphylococcus albus which could be isolated from deep tissues, both in human beings and in animals. 2. The coccus isolated from deep tissues was merely the ordinary skin staphylococcus modified by growing for considerable periods in the tissues where oxygen was absent or very scarce. 3. The above statement was justified by the fact that an aerobic growth of skin staphylococcus gradually assumed the characters of the micrococcus neoformans. 4. The serum of cancerous patients did not possess specific agglutinins for micrococcus neoformans in a greater degree than did normal serum. 5. Cancerous patients did not react in any marked degree to vaccine treatment with this organism. 6. The temperature was not affected by large doses of the vaccine nor could specified opsonins be detected.

Dr. J. A. ARKWRIGHT read a paper on Mutation of Bacteria, with special reference to diphtheria and typhoid bacilli, as the result of altering percentages of salt in solution.

SUBSECTION OF PROCTOLOGY.

Round-celled Sarcoma of the Rectum.—Recto-uterine Fistula.—Exhibition of Cases and Specimens.—Method of Administering Saline.—Hæmorrhagic Proctitis.

THE first meeting of the new subsection was held on Nov. 12th, Mr. F. SWINFORD EDWARDS, the President, being in the chair.

Mr. ASLETT BALDWIN read notes of a case of Round-celled Sarcoma of the Rectum, illustrated by microscopic and macroscopic specimens. The growth was removed by resection of 6 inches of the rectum with preservation of the sphincter. It was detected in an early stage and formed a small submucous nodule still movable upon the muscle beneath.

Mr. BALDWIN also read notes of a case of Recto-uterine Fistula.

Mr. J. P. LOCKHART MUMMERY showed a case of Hæmorrhagic Proctitis. He also showed a woman upon whom in May, 1913, he had performed Abdomino-perineal Excision of the Rectum with resection of the posterior vaginal wall, and a specimen of a Colon removed by colectomy for auto-intoxication which remained unrelieved by lateral ileo-sigmoidostomy.

Mr. W. SAMPSON HANDLEY described a new method of administering saline after abdomino-perineal excision of the rectum, by which he claimed that the mortality of the operation could be greatly reduced. He recorded a series of nine cases of the operation, with one death.

Mr. LOCKHART MUMMERY read a paper on Hæmorrhagic Proctitis with illustrative cases.

The papers were discussed by the PRESIDENT, Mr. C. GORDON WATSON, Mr. H. GRAEME ANDERSON, Mr. CHARLES RYALL, Mr. HAMILTON DRUMMOND, Mr. L. E. C. NORBURY, Mr. DOUGLAS DREW, Mr. W. ERNEST MILES, Mr. LEES, and Mr. PERCIVAL P. COLE.

MEDICAL SOCIETY OF LONDON.

Continuation of the Discussion on Neurasthenia.[1]

A MEETING of this society was held on Nov. 17th, Sir DAVID FERRIER, the President, being in the chair.

Dr. JAMES B. MENNELL continued the discussion on Neurasthenia by referring to four points in the treatment of neurasthenia by massage. He drew attention, in the first place, to the fact that massage should be considered in the light of a therapeutic agent, the dose of which must be prescribed with care and accuracy. Second, that in the treatment of neurasthenia by massage only the most gentle movements possible should be performed; any irritating (so-called stimulating) movements should be prohibited. Third, that any point that was tender or hypersensitive was the last that should receive attention, treatment of any part that had been injured being postponed till the portion of the nervous system that was connected to the rest of the body had recovered its equilibrium. Fourth, that the actual nature of the massage movements employed were of no consequence provided that they were rhythmical. He pointed out that many neurasthenic patients owed their illness to the disturbance of the rhythm which was normal in the healthy nervous system, and that the hope of cure in these cases rested in the ability to restore that rhythm. The one hope of being able to do this lay in the application of massage, such as was devised by Lucas-Championnière, a massage that consisted of a smooth, gentle, rhythmical stroking of the surface of the skin.

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[1] THE LANCET, Nov. 22nd, 1913, p. 1469.

Dr. CLAUD FOTHERGILL said that he had taken cases of neurasthenia into his own private house for the last six years, and so had had extended opportunities of observing the effects of various forms of treatment. He took three patients and had one, two, or three nurses according to the requirements of the cases. At the outset a prolonged period in bed seemed invaluable; it made the patient more restful, helped to get rid of the insomnia, allowed weight to be put on in those who had wasted, and he had also found that getting the patient up after being in bed for some time had a real suggestive value. Whilst in bed those who had wasted should be fed to excess, and plenty of milk should be given; the stout ones should be dieted carefully. Massage should be employed in all cases, but where ordinary massage did not suit the patient the type known as effleurage should only be used, and preferably at bedtime, with only a dim light in the room; this would send many patients to sleep whilst actually being massaged. Galvanic and faradic electricity were useful, the latter where the patient complained of a violent headache; in some cases it was exciting, and here galvanism with a very weak current should be used for its suggestive value. Suggestion had to be employed throughout the whole treatment, and the patient constantly reassured that there would be recovery. Windows should be widely opened. For insomnia medinal should be given each night in gradually decreasing doses, and paraldehyde occasionally for any unusual restlessness, and a mixture of potassium bromide to begin with to help the patient to settle down more easily to the life in bed. Constipation probably righted itself with massage and the very liberal diet, but where necessary liquid petroleum was useful, with calomel once a week followed by salts. In alcoholic neurasthenics, in addition to the rest of the treatment, he used hypodermic injections of atropine and strychnine three or four times a day, and gave them a mixture containing the same drugs. He found the blood pressure in what he would call primary neurasthenia almost invariably low, and where it was high or due to arteriosclerosis, &c., the case was likely to take far longer to get well. After the period in bed was over the patient had to be let down gently and interested in as many healthy pursuits and hobbies as possible, such as walking, golf, tennis, fishing, poker work, collecting flowers, or gardening.

Dr. S. A. KINNIER WILSON said it was clear from a consideration of the various contributions already made to the discussion that neurasthenia was regarded from widely differing view-points, and that Beard's original description of "American nervousness" as a physical and not a mental state was evidently not accepted by several of the speakers. It was not absolutely necessary to have an exact definition of the term "neurasthenia," for there was obviously a general unanimity as to the sort of case to be included under the expression. He thought that the term had been unjustifiably widened to include much that belonged symptomatologically to other conditions. Dana, of New York, wrote an instructive paper some years ago on "The Passing of Neurasthenia," and he was greatly inclined to agree with Dana's conclusions as to the desirability of reducing the scope of the term as far as possible. He wished to direct attention to a class of cases frequently and complacently described as neurasthenia which belonged to a different system altogether, and which it was desirable thus to separate chiefly for therapeutical reasons. He referred to the group known as "cardiac neurasthenia," "pseudo-angina," but preferably as "vaso-vagal attacks," as suggested by Sir William Gowers. In his experience the condition was very far indeed from uncommon, and he had seen many cases of this condition slumped with the large and inchoate neurasthenic group, to the detriment of both. As a rule these vaso-vagal attacks were more or less periodic, and in some instances at least might fairly be considered as epileptic equivalents. In some ways they are analogous to attacks of migraine. The symptoms were, briefly, palpitation and cardiac irregularity, a feeling of suffocation, of difficulty in breathing, icy coldness of the extremities, an epigastric sensation, followed by trembling, clammy perspiration, hot flushes; sometimes there was obvious pallor, a small pulse, and an approximation to a state of collapse. In many instances the patient complained of a feeling of mental anguish or fear, of vague dread, even of impending death. Such attacks were clearly due to instability of the vagus nuclei in the medulla oblongata and of the adjacent vaso-motor centres, and whether in a complete or incomplete form they were so frequent as to render their recognition and separation from neurasthenia very desirable. Treatment with nitroglycerine, or with liquor trinitrini, was often strikingly successful in such cases. It was true, however, that similar symptoms occurred in not a few cases of true neurasthenia, and in such cases he regarded the symptoms as an episodic syndrome in the course of neurasthenia. Vaso-motor irritability, indeed, was one of the cardinal symptoms of that disease, and he had found it advantageous to recognise this and to use vaso-motor stimulants and regulators where the vaso-motor symptoms formed a prominent part of the clinical picture. It was important to remember, further, that in the so-called neurasthenia of the climacteric many of the symptoms were clearly of a vaso-vagal nature, and it was incumbent on the physician to emphasise the relationship between symptoms of sympathetic origin and the functional upset of the glands of internal secretion which was liable to occur at the menopause. There was a most intimate association between the function of the glands of internal secretion and the sympathetic system. He considered it probable, therefore, that not a few of the common symptoms of neurasthenia were the result of disturbance of glandular equilibrium. He could see no difference between the asthenia of neurasthenia and the asthenia of Addison's disease from a clinical point of view. Without going further into the questions which a consideration of these analogies raised, he wished to impress on the physician the importance of paying due attention to sympathetic and glandular symptoms in the treatment of neurasthenia.

Dr. JAMES STEWART thought that neurasthenia was much more favourable in male subjects than in female.

Dr. W. P. S. BRANSON said that the few remarks he had to make would be directed to cases of true neurasthenia, in which the physical element was pronounced. Much had been said about the neurasthenic constitution, and it was true, he believed, that without it neurasthenia did not arise. Nevertheless, he ventured to think that too much was made of it, and too little of the determining causes in the absence of which the potentialities of the neurasthenic constitution were not brought into play. If he were to ask the audience what was the predominant characteristic of neurasthenia, he thought that a general answer would be—the capriciousness of its manifestations. For the purposes of illustration he might cite a fairly well-defined type which was not uncommon. An adult, young or middle-aged, complains of perpetual, violent, and unaccountable variations in health. He wakes well; but between morning and afternoon is overtaken by a feeling of great physical lassitude, often accompanied by an apparently indescribable sense of oppression of spirits. Towards evening, or early in it, he becomes very drowsy, but his sleep gives way in the early hours of the morning to an agitated state of wakefulness which may last for hours. The following day may be like its predecessor, or, on the other hand, may be one of perfect well-being. And so his life is spent in a series of perpetual undulations between sickness and health, though he may throughout wear the aspect of one physically well. The sense of insecurity bred of these experiences was of course extremely damaging to enterprise and material success, while it happened not infrequently that such a victim might, in an access of dejection, throw up his life's work, only to regret the step most bitterly when, within a month, or a week, or even a day, he recovered his well-being. Assuming, then, that caprice was of the essence of neurasthenia, how was that caprice to be explained? To him it did not read like a fault of tissue nervous or other, for faults of tissue did not pass in a day; but rather as a fault, temporary in character, in the conditions under which the tissues were doing their work—a fault, one might suppose, in the constitution of the tissue fluids or in the physical conditions under which the exchanges incidental to life took place. He had spoken of his agreement with others in believing that the neurasthenic constitution was essential to the production of neurasthenia, so he ought to explain what he meant by the term. His conception of the neurasthenic constitution was that of a protoplasm abnormally irritable, and unduly facile in response to all extraneous influences. It was obvious how idiosyncratic these people were in their behaviour to drugs, and how careful one had to be in physicking them. And so it was, he believed, with all the impressions which reached them. If this conception were correct, one should look for the determining causes of neurasthenia to some kind or kinds of anomaly which would be variable, transient, and of little intrinsic gravity, known to concur with neurasthenic manifestations, or at the least theoretically adequate to produce the passing vagaries of function which stamped the disease. Having said so much he hoped he would be forgiven if he gave a short list of causes which he believed to be the determining causes in a good many cases. Firstly, Dr. Hyslop had said on the last occasion that excessively low blood pressure was a common event in neurasthenia. He agreed, and submitted it as an adequate cause. Secondly, a good many people had tried to show that a diminished acidity of the tissue fluids was common in this disease. Certain it was that a great many neurasthenics frequently passed a urine which was unduly alkaline, and milky from precipitation of its phosphates. He submitted than hypoacidity was an adequate cause. Thirdly, it was well-known that gouty people, and especially those suffering from so-called irregular gout, were very liable to neurasthenic phases. He submitted that metabolic accumulations, normal or abnormal, were an adequate cause. Fourthly, he must mention hyperchlorination, though with diffidence, for it was easy to become a crank in these matters. Sodium chloride was the only common article of diet, except water, which passed freely and unaltered into the circulation; it was taken in quantities enormously in excess of requirements by many people, and was known to be retained in the tissues. He had himself recovered nearly 3½ drachms of sodium chloride in excess of what was taken with milk from a neurasthenic man in the course of 17 days. Considering the extraordinary forces exercised by salts in solution, he thought hyperchlorination must be admitted as an adequate cause. Fifthly, one could not disregard intestinal toxæmia, although he fancied we had heard more about it lately than it deserved. Sixthly, and lastly, not because of its importance but of our ignorance, he would put faulty correlation of internal secretions. It was certain that many of the symptoms of hyperthyroidism were neurasthenic in quality, and the same was true of the symptoms of the menopause. He suspected that the future would show a large dependence of neurasthenic states upon faulty relations of these secretions. If there were truth in these hypotheses it followed that, however largely neurasthenic states were overlain by auto-suggestions and emotional complications, the foundations of permanent cure lay in physical means; and such experience as he had led him to believe that such remedies as acid phosphate of soda, abundant water drinking, limitation of chlorides, purgatives, and sour milk, and lastly, but not least, exercise, which among its other virtues presumably acted as a stimulant of the internal secretions—all these used with discrimination and in their season were of the greatest service. Not that he wished to belittle psychotherapeutic measures such as reassurance and explanation, but that he believed the essential basis of neurasthenia proper to be physical and not ideogenic.

Mr. **ERNEST CLARKE**, after alluding to the inappropriateness of the term neurasthenia, mentioned the importance of never forgetting that it was not a disease but only a group of symptoms. He referred to the prime importance of always eliminating eyestrain before attempting to treat a neurasthenic. He showed that the cause was generally a small error of astigmatism which the patient could correct himself unconsciously, or a very slight want of muscle balance (heterophoria) which by its correction led to waste of nerve energy, which correction it was so important to relieve the eye from, since it was such a potent cause in producing so-called "functional" nerve trouble. He emphasised the extreme importance of testing the patient under a cycloplegic in all cases. He thought that the reason why rest did so much for the neurasthenic patient was that it gave the brain time to get rid of waste products which were being too rapidly formed. He referred to the important part which intestinal toxæmia played in lowering the power of accommodation of an individual and thus ageing him and probably rendering him liable to eyestrain. He thought that suggestion played a great part in the cure of neurasthenia, and that those called upon to treat neurasthenia should from the start establish the patient's faith in them and be most emphatic and didactic in the orders they issue for treatment.

Dr. **G. E. SHUTTLEWORTH** said that a certain number of children who were unfit for education in a public elementary school could properly be called neurasthenic. For these, instruction in a special school, particularly if it were combined with an open-air school, would be valuable. Schools between the ordinary ones and those for mentally defective children would be useful for temporary treatment. Afterwards the children could return again to the elementary schools. Much had been said about over-pressure in such cases, but the danger from this was much less real than that from bad home surroundings, insufficient food and clothing, to which they would be subjected if they were excluded from school altogether. Suitable occupation was preferable to none, and undue importance had been attached to self-abuse, but he thought that this was more often a symptom than a cause of neurasthenia.

Dr. **J. CURTIS WEBB** spoke of the efficacy of electrical treatment in certain suitable cases. High frequency only acted by lowering the blood pressure; static electricity, however, was of great value. There were two distinct classes—those benefited by application of the positive pole and those by application of the negative pole. The cases improved by the one were made worse by the other. This, he thought, was evidence that electrical treatment was of value otherwise than by pure suggestion. The negative pole served to stimulate, the positive to soothe.

The **PRESIDENT** said that it was clear from the discussion that the divergent views held with regard to treatment were largely due to the fact that all were not talking upon the same subject. The term "neurasthenia" was a limbo to which all kinds of nervous affections had been relegated. It was most important to recognise the truth that all the symptoms of neurasthenia might be met with in patients in good bodily health. Normally the sense of fatigue was not unpleasant, and it was only when effort had been forced in spite of fatigue, so that exhaustion was produced, that neurasthenia developed. In neurasthenics the sense of fatigue arose before it should do so normally, and this was the essential factor of the neurasthenic state. For physical exhaustion the rest cure and its adjuncts were of great value, but for the treatment of the neurasthenic, improvement of the morale was the essential part. For this, rational psychotherapy was the ideal treatment, to which the most inveterate neurasthenia yielded. All other treatments were merely adjuncts to it.

Dr. **RISIEN RUSSELL** briefly replied.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A MEETING of this society was held at the West London Hospital on Nov. 7th, Dr. **F. S. PALMER**, the President, being in the chair. The following cases were shown:—

The **PRESIDENT**: 1. A case of Pseudo-Hypertrophic Paralysis in a patient aged 7 (the elder of two children, both boys). 2. A case of Morbus Cordis and Hemiplegia in a female, aged 22 years, who had been blue as long as she could remember, with shortness of breath on the least exertion. Acute rheumatism at 17; again at 19. Sudden left. hemiplegia in March, 1912, clearing up gradually. The degree of cyanosis was remarkable and the clubbing of fingers and toes most marked. Cardiac area increased, the apex beat being in the fifth space in the nipple line. Loud harsh systolic bruit over pulmonary orifice conducted upwards and to left. Double mitral at apex, outwards to axillary line. Loud aortic double bruit at third right costal cartilage.

Dr. **E. ARTHUR SAUNDERS** and Dr. **R. MORTON**: Six cases of Early Pulmonary Tuberculosis in children between 5 and 10. No physical signs in the lungs, but wasting, irritable cough, and night sweats. Dr. Morton's skiagrams showed very clearly enlargement of glands at root of lung, also some invasion of root of lung itself in every case

Dr RUSSELL STEELE (for Dr Saunders) A case of Congenital Syphilis in a child Mother gave positive Wassermann reaction No signs of interstitial keratitis or other obvious signs of syphilis Wassermann reaction strongly positive Neosalvarsan 0 45 grm intravenously on Oct 16th No improvement

Dr SAUNDERS A case of Congenital Dilatation of C [illegible]

[illegible] surfaces of buttocks, backs of thighs, and legs A line about one finger s breadth of normal skin over right buttock No cardiac lesion discoverable Hands usually rather cold, becoming cyanosed on exposure to cold —The PRESIDENT said the appearance of these vascular patches suggested something between so called port wine stains and a modified form of Raynaud's disease

Mr *ASLETT BALDWIN* 1 *A case of* Traumatic Asphyxia and Hæmorrhage into the Cervical Cord The patient, aged 26, was crushed between a lift and a balance weight on Oct 28th He was unconscious and cyanosed, breathing laboriously, pulse very weak Several ribs on left side broken, extensive surgical emphysema on left side of chest, abdomen, and back, pupils dilated, very sluggish On the 29th he began to regain consciousness, but the emphysema continued to spread Sputum slightly blood stained On the 30th he regained consciousness emphysema was disappearing, and there was much muco purulent sputum tinged with blood General blueness disappeared, leaving a permanent blueness of face and neck, and conjunctival hæmorrhages in both eyes Marked weakness and loss of reflexes in all muscles supplied from the brachial plexus, probably due to minute hæmorrhages into the cervical cord The patient was improving rapidly, and complete recovery was expected 2 A case of Implantation of Rib to replace loss of bone due to compound comminuted fracture of tibia and fibula The operation was done about 16 days ago and new bone formation has already occurred —Dr A OGIER WARD considered the case opportune as the press was busy discussing euthanasia in apparently hopeless cases This patient recovered, though in the opinion of competent men he had not an hour to live If once the principle of euthanasia were admitted this case would surely have been held to justify an overdose of morphia

Mr N BISHOP HARMAN Cases of Syphilitic Uveitis Salvarsan had been used in the first of the cases without benefit He also showed two young men and a girl recently arrived from Greece who were affected with Trachoma But for the continual importation of cases from abroad this disease might be stamped out altogether

Dr. *HAROLD PRITCHARD* Two cases of Morbus Cordis, with well marked valvular lesions, the results of acute rheumatism, a short chained streptococcus found When first seen the cases were clinically identical, but one proved a true case of infective endocarditis, with arterial emboli, the patient going steadily downhill, the other one of simple endocarditis with pulmonary emboli, the positive blood culture probably due to transitory blood infection These cases showed the difficulty of diagnosis in the early stages between simple and infective endocarditis, and emphasised the importance of combining clinical observations with the bacteriological findings —The PRESIDENT discussed the cases In his experience of malignant endocarditis neither serum nor vaccine therapy had been of any use

Dr T GRAINGER STEWART A case of Syphilitic Disease of the Cervical Spine with sensory symptoms referred to the distribution of the upper cervical root areas *Syphilis seven years ago, not treated X ray examination* showed changes in the upper cervical spine, some destruction of the bodies of the vertebræ, and considerable overgrowth and new formation Wassermann reaction strongly positive A second case was one of Toxic Polyneuritis affecting specially the lower motor neurone in a girl aged 17 In the beginning of August, 1913, patient felt weak, easily tired, and found difficulty in walking In three weeks' time she was unable to stand and the hands became weak No constitutional disturbance and no evidence of arsenical, lead, or alcoholic poisoning No history of diphtheria, and cultures were negative Present condition, complete flaccid paralysis of both lower extremities Weakness of the trunk muscles and intercostals and both arms but no absolute paralysis Leg muscles much wasted, those of arms less so All deep reflexes in arms and legs abolished Superficial epigastric, and abdominal diminished Marked loss of sensibility to all forms of cutaneous sensation in the distal portion of the limbs, with some loss of sense of position General state good Wassermann reaction of blood and cerebro spinal fluid and culture from cerebro spinal fluid negative

Mr OSWALD L ADDISON 1 A case of Syphilitic Osteoperiostitis in a female child affecting the upper end of right ulna and both tibiæ 2 A case of Abdominal Tuberculosis in a boy aged 13 Admitted to the Hospital for Sick Children, Great Ormond street February, 1913 History of four days' illness pain in abdomen and diarrhœa, in distinct mass in hypogastric and umbilical regions X ray of chest showed scattered opacities in both lungs and a large shadow at the left base On March 6th patient was transferred to a convalescent home at Highgate After four or five weeks he *was able to be out of doors all day* *The main* interest of the case was the remarkable increase in weight Weight March 6th, 1913, 4 st 4 lb, Sept 6th 5 st 10 lb, since when patient has put on another half to three-quarters of a stone 3 A case of Acute Appendicitis with General Peritonitis in a boy aged 7, admitted to the hospital desperately ill, almost comatose, on June 4th, 1913 Under spinal anæsthesia the abdomen was opened, the gangrenous appendix removed, and tubes placed in the right iliac fossa and the right and left hypochondriac regions It seemed impossible that the patient should recover two attacks of cardiac failure on the second day nearly proving fatal The condition gradually improved, but on the 20th a residual abscess of the left iliac fossa was opened A day or two later the whole of the left lung became solid, the temperature ranging between 104° and 102° F gradually falling to normal by the 29th During this attack of pneumonia the original wound, which had been bathed in pus since the first operation gave way and some coils of small intestine prolapsed, owing to the constant cough On July 1st the bowel gave way, and by the 5th the greater part of the intestinal contents were being discharged over the skin of the abdomen On the 5th the partially prolapsed bowel was separated from the margins of the wound, 12 inches of badly damaged intestine resected, and a lateral anastomosis performed The temperature gradually fell to normal and the patient took food well, but was wasted to an extreme degree The abdomen was flat, there was no pain, but cough persisted Empyema was suspected but exploration proved negative A fortnight after the enterectomy a fæcal fistula again formed, the wound having almost healed A second enterectomy was performed and about 1½ pints of pus were evacuated from the chest Convalescence was very slow, but the patient was able to leave the hospital nearly three months after the *commencement of the illness* The vitality of the child was simply amazing All the operations but one were performed under spinal anæsthesia, and it seems certain that the patient would have succumbed to any of the operations had a general anæsthetic been used Mr Addison attributed recovery to the continuous use of saline solution per rectum, subcutaneously and intravenously, combined with the unremitting attention of the house and nursing staff

Mr H TYRRELL GRAY 1 A case of a Sarcoma of a Keloid of the Eyebrow in a patient aged 2 years and 11 months 2 A case of Implantation Dermoid following Circumcision 3 A case of Sarcoma (?) of the Maxilla in a boy aged 10

Dr A C D FIRTH A man, aged 32 with marked Scoliosis of the Lower Cervical Vertebræ, present since birth The presence of an extra wedge shaped vertebra apparently between the sixth and seventh cervical, was shown by the X rays

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LIVERPOOL MEDICAL INSTITUTION

Exhibition of Specimens —Intramural Extension in Rectal Cancer

THE first pathological meeting of the session was held on Nov 13th, Mr F T PAUL being in the chair The following specimens were shown and described —

Mr R W MURRAY (1) A Large C [illegible] Aneurysm from the [illegible] of [illegible] age; (2) the Amputated Leg of a woman, 50 years of age, with elephantiasis. The limb after amputation weighed 64 lb. The patient had never been out of this country, and had carried on her work up to the time of her admission to hospital.

Mr. A. Adair Dighton showed sections illustrating Sarcoma of the Nose, one section being of the nasal tumour and the other of the glands in the neck.

Mr. R. Stopford Taylor and Dr. R. W. MacKenna showed a Nasal Polypus of Tuberculous Origin.

Mr. G. P. Newbolt showed: (1) Myxoma of the Parotid; (2) Epithelioma of the Jaw.

Mr. R. E. Kelly and Professor Ernest E. Glynn showed: 1. Some specimens from three cases of Abdominal Trauma. They included ruptured liver, ruptured spleen, fat necrosis, &c. Mr. Kelly considered that the rectus aponeurosis was the best material to use for suturing the liver; this material did not cut through. 2. Carcinoma of the Pylorus removed at operation. 3. A Congenital Cystic Kidney. 4. A Suicidal Gun-shot Wound of the Skull.

Dr. J. H. Abram and Professor Glynn showed a specimen of Polypoid Colitis in a girl associated with chronic diarrhœa. One portion had developed into columnar cancer with metastases in the liver.

Professor Glynn showed: (1) Tuberculosis in the Lung of a Camel; (2) Tuberculosis in the Pericardium of an Ox; (3) Melanoma in the Liver of a Horse; (4) Perihepatitis in a Horse; and (5) Nutmeg Liver in a Pig.

Dr. Nathan Raw showed: 1. A specimen of Acute Tuberculous Pericarditis in an adult, aged 30, secondary to miliary tuberculosis of the lungs. During life 40 ounces of fluid were withdrawn by paracentesis with marked temporary benefit. 2. A Lung showing Healed Tuberculosis in the Upper Lobe. The man, aged 59, died from acute pneumonia but had consumption when 35 years of age and had been quite cured.

Mr. D. Douglas-Crawford showed: (1) Endothelioma of Testicle, and (2) Foreign Body (brooch) from Intestine. Cotton-wool had been administered and the brooch had been passed wrapped up in it.

Mr. R. C. Dun showed: 1. Microscopical Section of Congenital Fibroma of the Finger, removed from an infant 9 weeks old. The tumour was of the size of a cherry, pedunculated, and grew from the palmar surface of the digit. 2. Microscopical Section of Wall of Brachial Cyst. The lining consisted of stratified epithelium and typical masses of lymphoid tissue were present. The cyst was removed from a boy aged 12 years. It occupied the position of the second brachial cleft; it was of the size of a tangerine orange and had only been noticed for 12 months.—The specimens were discussed by Mr. Paul, Mr. Douglas-Crawford, Professor Glynn, Mr. C. Yorke, and Dr. W. Blair Bell.

Mr. K. W. Monsarrat and Dr. T. J. Williams communicated a paper on Intramural Extension in Rectal Cancer. The paper presented the results of complete histological examination of the specimens derived from four cases of operation for rectal cancer. The specimens were cut in serial sections, and the staining method employed was mucicarmine and hæmatoxylin. It was considered that it was incorrect to look upon mucin as a degeneration product or its presence indicative of growth ineffective from the point of view of metastases. It was shown in the observations reported that infiltration was widest in the planes of the longitudinal muscular coat and the cellular tissue outside it. No permeation of lymphatic plexuses to a distance beyond the primary site was demonstrated. In particular, it was not found that permeation took place in the plane between the bases of the follicles and the muscularis mucosæ. In one of the specimens it was shown that the growth was present within the venules in the muscular coat and the adventitia. The specimens were representative of the commonest type of rectal cancer, a fibrous stenosing carcinoma. They went to show that the disease remained local for a considerable period, that glandular invasion might be considerably delayed, and that longitudinal extension in the rectum was not rapid and wide, but comparatively slow and restricted. The authors considered that while abdomino-perineal amputation was the operation of choice for carcinoma, resections and amputations less extensive than this procedure offered fair prospects of cure, and that it was, therefore, justifiable to undertake such operations when for any reason a complete amputation appeared to be contra-indicated.—Professor Glynn analysed 50 post-mortem examinations on patients who had died from cancer of the large intestine in the Royal Infirmary. The rectum was affected in 20, and the pelvic colon in 10 cases. Metastases other than those in the lymphatic glands in the neighbourhood of growth were present in only 19 cases. Thirty died from peritonitis, including cellulitis or abscess formation. In 9 there was acute ulceration of the intestine at some distance from the stricture.—Dr. Blair Bell discussed the frequency with which malignant growths of the rectum invaded ovarian cysts; and contrariwise he had found ovarian carcinoma sometimes invaded the rectum to such an extent as to make it difficult to decide at operation which was the primary growth. Histological examination usually made this question clear.—Mr. Paul, Mr. Newbolt, and Mr. R. W. Murray also spoke.—Mr. Monsarrat replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A clinical meeting of this society was held in the Royal Infirmary on Nov. 19th, Dr. John Playfair, the President, being in the chair.

Dr. Dawson Turner showed: 1. Cheloid on the Left Cheek of a female, aged 21 years, which he was treating by radium. The patient had suffered from an extensive port-wine stain. With a view to removing this it had been treated by carbonic acid snow and nitric acid, but it developed a cheloid in the lower portion; this extended rapidly, but had yielded to radium, and the port-wine stain was also disappearing. The dose had been 399 milligramme hours. 2. A Nævus in the Cheek of a male child, aged 17 months, under treatment by radium. The dose had so far been one of 44 milligramme hours.

Dr. Norman Walker showed a case of Nævus and one of Dermatitis Autophyta.

Dr. John D. Comrie exhibited a case of Spastic Paraplegia in a female child aged 7 years. The legs were fairly developed, but she could only walk when supported, and did so with her legs crossed. The arms were strong, the visceral functions were normal, and the intelligence was good. Wassermann's reaction proved negative. Probably the paraplegia was due to a congenital defect in the brain at the upper end of each Rolandic area (porencephaly).

Dr. Robert A. Fleming showed two cases of Beri-beri which had occurred in a fireman and a lascar in the same vessel. The first case was of the wet type, and the history had extended for three weeks. The disease commenced with weakness, pains in the chest, and later these were complained of all over the body. The leg-jerks were completely lost, and there were extensive areas of anæsthesia not confined to the legs. No hyperaesthesia was present, except a slight muscle tenderness, especially in the calf muscles. Dropsy of the legs and feet ensued, but this had now passed off. The left ventricle of the heart was dilated, but there was no irregularity. The second case was of the dry type. The duration was the same as in the preceding case. The patient had complained of much pain in the stomach and head. The loss of leg-jerks and areas of anæsthesia were very similar to the other case, though there was rather more hyperæsthesia of the muscles of the calves. There had not been any dropsy, and there was much less evidence of dilatation of the left ventricle. Both men had been fed in part on rice water, and there were other but less definite cases amongst members of the crew at the same time.

Dr. Edwin Bramwell showed two cases for diagnosis. Two brothers, aged 17 and 11 years, had for four years and one year respectively been troubled with progressive difficulty in walking. There were no similar affections in other members of the family or in their antecedents as far as could be ascertained. Both patients presented a degree of spastic paraplegia with exaggerated tendon jerks and a bilateral tendon response, in addition to some unsteadiness of gait, an intention tremor in the upper limbs, and defective articulation.

Dr. G. Lovell Gulland showed four cases of Aneurysm.

Mr. John Fraser showed Transplantation of Fibula to Replace an Undeveloped Tibia in a child aged 6 months.

The lower half of the right tibia was undeveloped, and the growing fibula had displaced the foot inwards at a right angle The fibula was divided, a portion was removed to permit of straightening, and the ends wired Into the gap of the undeveloped tibia the fibula of the opposite leg was transplanted

Mr. **Lewis Beesly** showed a male patient after Left Interscapulo-thoracic Amputation for Tuberculous Disease with Sinuses The man had received an injury to his shoulder in 1905, pain commenced to be felt in the shoulder two months later, an abscess burst in 1909 A radiogram showed tuberculous disease of the shoulder joint which was excised by the anterior method The wound healed, and he had a useful arm for two years, recurrence then took place with fresh abscesses and amputation was performed this year The wound had healed completely

Mr **David Wallace** exhibited 1 Diastasis of the Lower End of the Femur after Plating The patient, a boy aged 12 years, was thrown from a horse rake and had his left leg caught and severely twisted On admission to the infirmary the lower end of the shaft of the femur was situated just under the skin on the inner side of the leg and the epiphysis was displaced forwards and outwards Replacement under an anæsthetic was unsuccessful, and therefore after extension had also failed plating was done on the eighteenth day after the injury and the union was now satisfactory and complete 2 Partial Resection of the Stomach for Carcinoma The patient was a man, 46 years of age, who was admitted on Oct 16th, 1913 He had been treated medically for six weeks during August and September for symptoms indicating duodenal ulcer During this time he had gained [illegible] ne had recurrence of hæmatemes [illegible] umour was palpable A year [illegible] from exophthalmic goitre, but there was no evidence of this disease on his admission to the surgical wards On Oct 24th the middle section of his stomach was excised for a carcinoma on the anterior wall and the two portions were reunited An enlarged inflammatory gland below the stomach was also removed The man had made an excellent recovery

Mr **D P D Wilkie** showed a case of Osteo chondritis Deformans Juvenilis in a boy aged 8 years For the past four months he had been limping, the limp becoming gradually more pronounced He had no pain, but ran about and played football with his companions Movements of the affected hip joint were free except abduction, which was markedly restricted An X ray photograph showed the typical appearances—viz, flattening of the epiphysis and rarefaction at the outer and upper part of the neck of the femur

Mr **J W Dowden** showed 1 A male aged 49 years He had fractured both bones of the right leg on May 28th, the shortening amounted to 2 inches The case was treated by hanging the leg over the end of the bed, no splints were applied Marked œdema resulted, and though union was delayed the position of the bones and the length of the limb were good 2 A female, aged 50 years, who had fractured both bones of the leg, the shortening amounted to 1½ in On the third day after the accident treatment was begun as in the preceding case Rapid union took place with the bones in excellent position

Mr **George L Chiene** showed 1 Carcinoma of the Sigmoid Flexure which caused complete obstruction for 14 days The patient was a female aged 35 years She had vomited for a week On admission the abdomen was distended and the intestines showed the ladder pattern A transverse incision was n [illegible] ascertained colostomy was [illegible] growth was resected One [illegible] the colostomy was closed 2 Large Ventral Hernia of old standing in a woman aged 42 years There were recent signs of subacute obstruction with pain and tenderness localised to one portion of the hernial tumour At the operation the urgent symptoms were found to be caused by strangulation of an epiploic appendix in a subsidiary peritoneal pouch

Mr **J W Struthers** showed 1 *Ostitis Fibrosa* occurring in a male aged 21 years, causing deformities, specially in the femora 2 Osteoplastic craniotomy for Jacksonian Epilepsy in a boy aged 9 years and 7 months At the time of operation the patient was having 16 to 18 fits in 24 hours Nothing abnormal was found at the operation, which exposed the upper right motor area, but since the operation the boy has been entirely free from seizures

Mr **Charles N Cathcart** showed 1 A man after operation for Tuberculous Glands of the Neck where the internal jugular vein was torn close to the skull and closed by plugging 2 A male patient finally cured after six operations for Recurrent Fibroid Tumours of the Neck and Face He had since developed a carcinoma of the splenic flexure of the colon

EDINBURGH OBSTETRICAL SOCIETY.

The National Insurance Act and Obstetrics —Cloacal Vesical Exstrophy in the Female

A meeting of this society was held on Nov 12th, Dr. **J Haig Ferguson**, the President, being in the chair

The **President** in his valedictory address referred to the effect that the Insurance Act had had on the teaching of obstetrics and on maternity hospitals in Scotland There had, he said, been a large decrease in the number of cases in the different maternity hospitals in Scotland From Jan 1st to August 31st of this year there had been a decrease in indoor and outdoor practice in Glasgow Maternity of 717 cases, Aberdeen, 145, Edinburgh, 381, and a considerable number in Dundee, though statistics for this similar period were not available The field of teaching was undoubtedly restricted, the output of nurses was consequently less, and the difficulties of meeting even the bare obstetric necessities of the medical student were correspondingly increased There was a necessity for midwives, especially in rural districts, but they must be efficiently supervised For this purpose the Scottish Midwives Bill was required, and it was hoped that this measure might soon be enacted He also referred to the deaths during the last year of several honorary Fellows—Mr G Granville Bantock, Professor H J *Garrigues, Professor Paul Segond, Professor Sir W Japp* Sinclair, and of several corresponding and ordinary Fellows

Dr **T B Johnston** communicated a paper by Dr A A **Morison** on a case of Cloacal Vesical Exstrophy in the Female The case occurred in the out patient practice of the Edinburgh Royal Maternity Hospital The mother had given birth to eight other children, none being deformed During her pregnancy she had fallen on the floor several times, but did not take much notice of these falls as she never hurt herself severely There was nothing specially noted with regard to the placenta, membranes, or liquor amnii The child was weakly and only survived birth three days During life it took the bottle fairly well and cried feebly at times When it cried the extroverted area became prominent, and a proboscis like protrusion in the extroverted area straightened out and normal meconium was extruded The urine issued from a small opening placed on the inferior aspect of the area to the right of the middle line There was no anal opening, but a slight depression was present The extroverted area was somewhat triangular in shape, the apex of the triangle *being below the attachment* of the cord The centre of the area was prominent and cone shaped, the apex terminating in a proboscis like structure curving to the right, from which meconium escaped The upper part blended with the skin of the abdominal wall On the inferior surface there was an evagination surface depression, at the side of which was a slit like orifice which was found later to communicate with the large intestine On post mortem examination it was found that the intestine measured 30 inches from the pylorus to its termination in the centre of the extroverted area The large intestine was represented by a small oval body, yellowish in colour, with a recurved blind extremity, it was found in the centre of the pelvic cavity There was a double vagina, the walls of which were joined in the lower half. A portion of large intestine crossed the junction The right vagina was the larger and was seen connected with a partially developed uterus with normal broad ligament, Fallopian tube, and ovary The left vagina had a very rudimentary uterus attached, but the appendages seemed *normal* The r [illegible] the extroverte [illegible] munication be [illegible] opened into the right vagina [illegible] ureter was attached to the left vagina on its posterior surface, but did not open into it; it was irregularly dilated and there was secondary hydronephrosis. The symphysis pubis was absent, the iliac and portion of pubic bones being widely separate anteriorly; there was no spina bifida. Microscopically the greater part of the extroverted area was covered by normal bladder epithelium of squamous character; there was a portion near the prolapsed end of small intestine covered by normal intestinal mucous membrane. With regard to the origin of this arrest of development of the anterior wall, it is to be noted that there was an absence of attachment of fœtal membranes to the area, and that there was no spina bifida. These are two of the most common causes given for this condition. Dr. Johnston had worked up the histology of the specimen.

Dr. D. BERRY HART thought no one would consider the falls of the mother as a cause for the extroversion. Professor Wood thought such a condition was due to an adhesion of the placenta and membranes, but no one had confirmed this. Professor Paterson had also given a somewhat similar explanation. The allantois was blamed also as the cause—an extraordinary view. The human embryo had no allantois; all that it had was a small tube in the early umbilical cord, *and consequently it could play no part whatever in this* deformity. In this case the real explanation had been given by Dr. Johnston—namely, that the extroversion was due to the yielding of the cloacal membrane, which was the membrane in early fœtal life lying in front of the entodermal cloaca and in the middle line. The gut was formed by an infolding of the blastoderm, and the bladder and rectum were formed by coronal folds. In the middle line there was thus a weak part where the mesoderm was wanting from the first or failed to grow in, and it was the yielding of this mesodermic portion that caused the extroversion of the bladder. The difficult point was to explain exactly the openings into the small intestine. It was quite possible that the part of the gut in front of which the extroversion arises plays some part in the formation of the small intestine.

Dr. JOHNSTON, in reply, said that the chief difficulty in the previous cases was that investigators had been drawn away by the opinion that the extroversion of the bladder necessitated rupture of the viscera, and they worked from that standpoint.

The following Fellows were elected office-bearers for the ensuing session:—President: Professor Sir J. Halliday Croom. Vice-Presidents: Dr. G. F. Barbour Simpson and Dr. G. Keppie Paterson. Treasurer: Dr. John McGibbon. Secretaries: Mr. E. W. Scott Carmichael and Dr. R. W. Johnstone. Librarian: Dr. J. Lamond Lackie. Editor of Transactions: Dr. James Young. Members of Council: Professor R. G. McKerron (Aberdeen), Dr. J. W. Keay, Dr. H. Oliphant Nicholson, Dr. H. M. Church, Dr. J. Haig Ferguson, Dr. Angus Macdonald, Dr. D. Berry Hart, and Dr. Hugh S. Davidson.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 14th, Dr. C. J. Vlieland, the President, being in the chair.—A unanimous vote of condolence was sent to the relatives of the late Mr. J. Somer, the greatly esteemed father of the society.—Mr. George Adkins introduced a discussion on "Milk and Milk-supply." He said that to get a grasp of this subject from a public health point of view a milk-supply must be studied in all its sources. Commencing with the cow, at least 30 per cent. were found to suffer from tuberculosis, and at least 10 per cent. of these could convey the disease. As the milk left the cow contamination often took place at once through the very act of milking. Teats and udders were frequently soiled with cow-dung. Again, those engaged in milking often came to the cows straight from such employment as digging manure, and no attempt was made to cleanse the hands. He had seen a milker dip his hand into the pail and use some of the milk as a lubricant to the teat, and from the latter there streamed down to the pail again an emulsion of milky cow-dung. Dairies which looked very clean and beautiful inside frequently ventilated in the direction of a neighbouring dunghill, while the water for scalding cream was liable to be derived from an uncertain source. Again, the conveyance of milk offered an easy opening for contamination, while even if milk escaped in the earlier sources of supply grave risk was encountered in the home owing to dirty jugs, defective larder, and contamination by flies. Mr. Adkins then dealt with the spread of epidemic disease *viâ* the milk-supply. Greater attention should be directed to the cleansing of cows and sheds and to the need for cleaner methods in milking. He advocated the immediate cooling of milk from the moment it left the cow. He then criticised the administration of the so-called prevention of adulteration Acts which were carried out feebly by the police at expected and stated intervals. Many useful Orders emanating from time to time from the Local Government Board had not been adopted by the district sanitary authorities.—Dr. Henry Davy considered that the frequency of infection by B. coli group was not sufficiently recognised, nor how easily such an introduction could take place under the present filthy conditions of milking. In the matter of tuberculous disease any satisfactory scheme for dealing with the cows would have the effect of raising the price of milk and make it impossible for the poor to obtain it in sufficient quantity. He considered that the proposed Pure Milk Bill would be too unpopular for any Government to bring it forward.—Dr. William Gordon considered it was extraordinary that such vile methods of milk-supply should exist in this country. He stated that in Denmark tuberculosis had almost been *stamped out and asked why it should not be so in this* country. He therefore advocated the support of any means for the furtherance of a drastic Bill.—Mr. Russell Coombe mentioned an experimental farm of 100 cows where the milk was examined constantly at the Lister Institute for 12 months. The bacillary content had been much reduced when the closed pail superseded the open, and still more reduction was obtained when methods of cooling were introduced. He discussed the various items and the expenditure involved in a certified milk-supply. He considered that too harsh restrictions on the producer would work against grazing and the supply of milk might be reduced to a dangerous point. For this reason he advocated a certified milk-supply.—Dr. R. V. Solly considered that since milk formed such an excellent medium for cultivation the art of milking should be undertaken with the same thoroughness as a surgical operation. The temperature of the milk should be reduced to 10° C. He then enumerated the various organisms capable of gaining an entry to milk and mentioned that in infantile diarrhœa the products of bacteria were often of as much importance as the organisms themselves. He considered that milk heated to 60° C. in a closed vessel for 20 minutes became sterile as regards micro-organisms.—Dr. C. N. Lovely referred to the Copenhagen milk-supply, for which private enterprise had done most. The companies paid 4 per cent. and the price of milk was not raised.—Dr. Black thought that recent legislation had been productive of good. Cleanliness could only be insured amongst milkers by an appeal to the owners. In advocating suitable covers for the protection of stored milk, he mentioned that he had seen an admirable contrivance in one dairy which was merely a square of muslin with small weights at the corners. Fine flexible metal might be substituted for the muslin which was liable to become soiled.—Mr. E. L. Sturdee considered that the old cowsheds, so frequently encountered on inspection, were very difficult to maintain in anything approaching a cleanly condition. Education was required by the consumers as well as by the dairyman and farmer. In Exmouth they had recently adopted the bacteriological examination of milk.—Dr. H. E. Goulden had found more uncleanliness of the teats than of the milkers' hands. He strongly advocated the initial cooling of milk.—At the conclusion of the discussion a resolution was unanimously adopted affirming the desirability of the Government proceeding without delay to introduce the long promised Milk Bill, in view of the steps now being taken in regard to tuberculosis and infantile mortality. Pending the introduction of the Government Milk Bill this meeting expressed the opinion that the Exeter city council should take under their consideration the examination of milk for the detection of tubercle.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 6th, Dr. Walter Broadbent being in the chair.—Sir Anthony Bowlby gave an address on the Character and Site of Abdominal Pain, and their Relation to Diagnosis. He pointed out that attacks of acute, transient, and recurrent *abdominal* pain, apart from neuroses, diseases of the spinal cord, or poisons, were due (*a*) to obstruction or distension of a viscus, (*b*) to interference with its circulation, or (*c*) to extension of inflammation to the peritoneal coat. He emphasised the value of an exact, detailed statement of one particular attack, its mode of onset, immediate effect, and subsequent symptoms, and especially the finding out whether tenderness *remained at any point after the acute attack was over,* because pain was frequently referred to points distant from the viscus affected, but persistent local tenderness was a true guide. He noted that the position and lines of radiation of pain were often important, affections of the gall-bladder, for instance, being the only abdominal con*dition causing anterior chest pains even up to the shoulder,* catching of breath, &c., though in this connexion care should be taken not to exclude because of absence of pain, for it was the passage, not the presence, of gall-stones that caused the pain, and many patients were treated for years for indigestion, &c., while all the time the gall-bladder was *full of stones, simply because they never had suffered from* colic or jaundice. He added that in only 1 case in 5 of renal colic was there a stone present, and conversely that cases with stone present did not suffer from colic, the explanation being that attacks of colic were mostly due to a "storm of crystals" passing down the ureter, while stones lying *in the pelvis of the kidney were painless. A case in which the* passage of a stone down the ureter occupying three years was watched by X rays, and was unattended by any pain or symptoms, was here referred to. In the case of the appendix he pointed out that pain was more generally referred to the umbilicus or some distant part if the *peritoneal coat were not affected. The small intestine being* entirely intraperitoneal, while the large intestine was not, explained why with the large intestine pain was more definitely located in the site of disease. He concluded by referring to neurotic cases with severe abdominal pains but no organic lesions. In many instances operations were *demanded injudiciously and were unsuccessfully performed.* —The paper was discussed by Dr. Broadbent, Dr. A. H. Buck (who thought that "splanchnic neurasthenics" generally had real organic lesions), Dr. J. F. Gordon Dill, Dr. R. Whittington, and Mr. H. N. Fletcher (who gave an interesting account of the exact position of referred pain in relation *to the distribution of the spinal nerves).*

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at St. John's Hospital, Leicester-square, W., on Nov. 18th, Dr. Morgan Dockrell, the President, being in the chair.—Clinical cases were shown as follows: Dr. J. L. Bunch: (1) A case of Tuberculosis Verrucosa Cutis in a woman aged 54; and (2) a case of Macular Syphilis in a man who gave no history of primary infection.—The President showed a case of Hyaline Degeneration of the Skin in a woman aged 35; the condition had been present since childhood, and took the form of hard pearl-like nodules; the disease was especially marked on the bridge of the nose and the upper and lower eyelids. 2. A case of Xeroderma Pigmentosum in a girl aged 16; some of the lesions showed a warty growth, with telangiectasis and scarring.—Dr. T. Galbraith showed two cases of Lupus Vulgaris which had been treated for one year with tuberculin—P.T.O., P.T., and T. One case showed considerable improvement, while in the other case there was no improvement.—Dr. W. K. Sibley showed: 1. A case of Lupus Erythematosus in a man aged 34, symmetrical, and spread over the face and ears. 2. A case of Lupus Erythematosus which had been treated for one month with Acetone CO_2; [illegible] ly disappeared. 3. A case of [illegible] n a butcher's assistant aged [illegible] on the back of the left hand. [illegible] ral cases of Lupus Vulgaris, ulcerated and [illegible] d the treatment in each [illegible] on Chronic Lupus, in whi [illegible] Volkmann's spoon, and X rays *especially* in the ulcerative type of lupus, also Finsen light, and tuberculin treatment.—The President, Dr. Sibley, Dr. A. T. Bremner, and Mr. E. U. Bartholomew joined in the discussion, and Dr. Griffith replied.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—A meeting of this society was held in the Board- [illegible]

for four years, the first two of which the patient had had regular anti-specific treatment; the last two this treatment was carried out intermittently. The whole tongue had been removed, and the patient spoke as well as, if not better than, he did *before the operation.*—Cases were also shown, with skiagrams before and after operation, by Mr. White of a Plated Fracture of the Femur after faulty union had taken place of three months' standing. The faulty union was due to the fracture being comminuted, and a large fragment prevented the ends of the bone from coming into correct contact. *Also a wired recent Fracture of the Humerus,* the ends of the bone not being able to be placed in apposition owing to the jagged nature of the fracture. It had been put up on a Middledorf's splint and excellent union had resulted.—Mr. Arthur Edmunds showed [illegible] the second phase of this [illegible] *deformity. The operati* [illegible] THE LANCET of Feb. 15th last.—Mr. Cecil Rowntree showed a specimen of Angioma of the Breast. This was described as an exceedingly rare disease in that region, Dr. Ernest H. Shaw stating it was the first case of the kind he had seen.—Mr. A. Clifford Morson showed sections illustrating *the Effects of Radium on Malignant Cells. This created* much interest, and a brief discussion ensued as to the real value of radium on malignant cells.—Dr. C. M. Hinds Howell exhibited two cases of Obscure Nervous Origin requiring a diagnosis, and Dr. E. Bellingham Smith showed a case of Tabes and Double Charcot Shoulder, one of which was *dislocated.*

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 19th, Mr. R. G. Hogarth, the President, being in the chair.—Dr. F. H. Jacob gave an address on Vaccines and Tuberculins. He explained the processes of natural immunity, and how dead cultures of bacteria produced antibacterial substances similar to those produced by living cultures. Wright's discoveries of negative and positive phases had paved the way to the administration of vaccines in cases of infective diseases. The general principles of vaccine treatment in various diseases were illustrated. Now that opsonic indices had been thoroughly tested in the various diseases, one was more able to rely on clinical guides as to dosage and the interval between each dose. If the dose was a proper one it should be followed by a negative phase in which the focal symptoms of the disease were increased for from 24 to 48 hours. Subsequent to this there should be a marked improvement in all the focal symptoms—i.e., there should be a sustained positive phase. After an interval of 7 to 10 days an increased dose should be administered. In acute diseases the initial dose should be small and should be followed by a second dose after three or four days. In vaccine treatment the best results were in cases of boils. B. coli vaccine together with urotropine in pyelo-nephritis gave good results. His results in pneumonia were not so good. Dr. Jacob was convinced that tuberculin had caused the death of many patients by lighting up the disease. For diagnostic purposes the dose should be very small. He had found T.R. the *safest. Provided adjuvant treatment was also carried* out, he was convinced that tuberculin undoubtedly did good in some special chronic cases where the treatment was persevered with for at least a year.—The discussion was continued by the President, Dr. C. H. Cattle, Dr. W. T. Rowe, Dr. J. S. Bolton, Dr. B. R. B. Truman, and Dr. J. Watson.

UNITED SERVICES MEDICAL SOCIETY.—At a meeting of the above society held at the Royal Naval Medical School, Greenwich, on Nov. 13th, Colonel Bruce M. Skinner, M.V.O., A.M.S., the President, being in the chair, a paper was read by Surgeon Campbell Ross, R.N., on Pulmonary Tuberculosis in the Royal Navy. He pointed out that the disease was not an uncommon one in the Navy. The number of invalidings for this disease in 1911 were 2·02 per 1000; the number of cases is, however, showing a yearly decrease; in the years 1856 to 1860 the average annual invalidings were 5·4 per 1000. He dealt at length with the causes, prevention, diagnosis, and treatment of the disease in the Navy, and pointed out the *importance of efficient* ventilation, the early diagnosis of cases, and the invaliding out of the service of men affected with pulmonary tubercle. (This is a routine procedure in the Royal Navy.) He also pointed out the importance of careful examination of the chests of recruits at entry. He gave a description of tuberculin treatment as carried out at the Royal Naval Hospital, Chatham, which in suitable cases had been found to give excellent results.—An interesting discussion followed, in which the following officers took part: Surgeon-General Sir James Porter, R.N. (retired), the President, Fleet-Surgeon P. Bassett-Smith, R.N., Fleet-Surgeon A. Gaskell, R.N., Lieutenant-Colonel C. Birt, R.A.M.C., and Surgeon R. Connell, R.N.—The passing of a hearty vote of thanks, proposed by the President, to Surgeon Ross for his most complete and valuable paper concluded the proceedings.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Nov. 21st, Dr. David Ross, the President, being in the chair.—Dr. Leonard Williams showed a boy, aged 16, who had ascites due to Tuberculous Peritonitis of four weeks' standing on admission. He was treated with calcium chloride and made a good recovery. The abdomen decreased from 52·3 cm. to 43·3 cm.—Dr. P. Hamill showed: (1) A woman the subject of Acromegaly with deep voice, typical facies and hands; also a skiagram of the skull and hands; (2) a man, aged 23, with Enlarged Upper Jaw, who may be the subject of acromegaly.—Mr. P. Maynard Heath: (1) A baby, six weeks old, who had a Congenital Angioma under the right hallux not involving the skin; (2) a boy, six years old, who had the sternal end of the clavicle dislocated forwards by the wheel of a van passing over the shoulder without fracturing anything. Fixation of the arm had not prevented the continuance of the luxation.

Reviews and Notices of Books.

The State Provision of Sanatoriums.

By S. V. PEARSON, M.D. Cantab., M.R.C.P. Lond. Cambridge: at the University Press. 1913. Pp. 80. Price 3*s*.

THE problem of the control and prevention of tuberculosis is ever before us, and the literature on the subject is growing apace. Nevertheless, in spite of all attempts to consolidate the efforts being made to solve the problem, chaos still persists. Some observers still maintain that the sanatorium is the essential element in treatment—prophylactic and curative; others, that tuberculin is the only rational remedy that can be employed; others that the dispensary, in its capacity of a remedial and educational centre, is the institution absolutely necessary for the success of any measures that may be taken against the disease. The truth will probably be found in a judicious combination of these methods; reliance on one alone will, we consider, lead to failure.

Dr. Pearson is an enthusiastic believer in the value of the sanatorium, and in the work now before us he sets forth his views as to the State provision of sanatoriums. He gives a short outline of what various countries are doing in a similar direction, and advocates the principle that tuberculosis should be treated separately when any scheme of sickness benefit or State insurance against sickness comes to be considered.

In the chapter on How to Raise the Funds and Control the Efficiency of State Sanatoriums various suggestions are made as to how the necessary expenditure might be met. The author mentions five sources, one or more of which might be drawn upon: (1) Voluntary charitable contributions from private individuals, generally the wealthy; (2) direct contributions from employers of labour to ensure the better efficiency of their employees; (3) local rates; (4) the pooled contributions of the working classes through invalidity and sickness societies or other agencies; or (5) taxes—through the National Exchequer, He comments on these sources, but does not advance matters much further by argument, recognising, no doubt, the difficulties. He then proceeds to show that the history of the gradual adoption by civilised states of the State provision of relief for the destitute and for the sick exhibits certain well-defined tendencies, of which perhaps the most promising is the recognition of the advisability of having, for purposes of economy and efficiency, an overseeing central authority with adequate powers of inspection and control over the local authorities, who, as a rule, have originally had the sole responsibility of looking after the destitute and sick.

In discussing the management of a sanatorium Dr. Pearson says that when large numbers of patients are being arranged for and economy demands a good deal of grouping, probably the best plan is to have two slightly different classes of sanatoriums. One should be within reach of populated centres, with a somewhat larger staff of nurses, ward-men, or ward-maids, and so on, than the other type possesses; to this all patients should at first be sent. The other, situated in the more remote country, is to be utilised by drafting those convalescents into it who are able to take plentiful exercise or graduated labour. While agreeing with this plan, we doubt whether it is wise that both these institutions should be called sanatoriums; the first class of institution he mentions partakes of the character of a hospital, whilst the second is more what a sanatorium ought to be.

Dr. Pearson's observations are valuable as suggestions rather than as an answer to the great problem at issue; but he has collected together a number of useful facts and has based upon them certain proposals which are worthy of consideration.

Preventive Medicine and Hygiene.

By MILTON J. ROSENAU, Professor of Preventive Medicine and Hygiene, Harvard; formerly Director of the Hygienic Laboratory, U.S. Public Health Service. London and New York: D. Appleton and Co. 1913. Pp. 1074, with numerous illustrations. Price 25*s*. net.

Professor Rosenau has planned this work on broad lines, with a catholic appreciation of the subjects which form the foundation of scientific public health work, and of the necessity of exact knowledge in fundamentals, if preventive medicine is to be written about and practised in the way most conducive to learning and practical progress. His personal experience in epidemiological investigations in America and in public health laboratories in different parts of the world, as well as the industry with which he has collected and studied the work of others, would in any case give importance to his presentment of modern preventive medicine, and no reader of this volume can fail to appreciate the ability and sound judgment with which the task has been carried out.

The order of the book illustrates the enlargement which has for some time been taking place in the conception of preventive medicine. Questions of "environmental" hygiene, especially the sanitary requirements of communities as represented by public works and local administration, are at least as important and necessary as they always have been, and remarkable progress is being made year by year in their efficiency. But they are, in *the* present stage of sanitary science, being overshadowed by the progress made in detecting the methods of transmission of disease, and in devising means for protecting the healthy individual from the particular infections or for destroying living carriers of infection. Professor Rosenau's book plunges the reader at once into the prevention of communicable diseases—a subject which occupies the first third of the volume; the following and a most valuable section deals with immunity, heredity, and eugenics; while the remaining half of the work comprises chapters on foods, air, soil, water, sewage and refuse disposal; industrial hygiene; vital statistics, and hygiene of schools. This latter part, it should be said, gives evidence of much care in preparation and a considerable knowledge of practical sanitary work in this country and on the continent, as well as of the United States methods, which naturally supply the principal text. The chapter on sewage disposal has been contributed by Professor Whipple, of Harvard, and that on vital statistics by Mr. C. L. Wilbur, the chief statistician of the U.S. Census Bureau.

Reverting to the first part of the volume, it will be found that Professor Rosenau has conveniently classified communicable diseases into (1) those having specific or special prophylactic measures—small-pox, rabies, venereal diseases, preventable blindness, and tetanus; (2) those spread largely through alvine discharges; (3) those spread largely through discharges from the mouth and nose; (4) insect-borne diseases; and finally (5) miscellaneous diseases, as yet not classified. The chapter on the latter includes a useful treatise by Dr. Thomas Salmon on mental diseases. A perusal of any of these accounts of different diseases will show that Professor Rosenau has taken great pains to set out all salient facts and to form a well-balanced judgment of the various causes which affect the prevalence of each disease and the relative importance of different means of prophylaxis. This is well illustrated by the chapters on tuberculosis, in concluding which the author points out that its prevention is now less a medical than a sociological problem. The results of the enthusiastic attack on tuberculosis are encouraging, but its eradication, in the author's opinion, must take a long time. "We should be satisfied," he says with useful moderation, "if we diminish the amount of tuberculosis appreciably in a generation. The momentum thus gained will increase rapidly. The time will come when the comparatively few cases left may be treated by compulsory isolation or other aggressive measures. Persistence along the lines now understood will in time control the disease, which will be the crowning achievement in preventive medicine." The observations on the prevention of small-pox and the value of vaccination show similar breadth, though their value would be increased for English readers if the author had drawn upon the data afforded by English small-pox hospitals, both in regard to vaccination and their effect in spreading the disease when they have been situated in populous neighbourhoods. Carrier infection in typhoid fever is fully described, but care is taken to emphasise the necessity of giving first attention to removing conditions in which either a typhoid patient or a typhoid carrier could cause an epidemic by wholesale infection of water or food. The prevention of syphilis is fully discussed, partly as a matter of early treatment of the individual case and partly from the standpoints of personal prophylaxis and continence. This subject may be expected in future to take a more prominent place in text-books of hygiene than is at present the case.

In conclusion, we may congratulate Professor Rosenau on an admirable piece of work, which is sure to receive careful attention from hygienists in this country.

Treatment by Hypnotism and Suggestion, or Psychotherapeutics.

By C. LLOYD TUCKEY, M.D. Aberd., First President of the Psycho-Medical Society. Sixth edition, revised and enlarged. London: Baillière, Tindall, and Cox. 1913. Pp. 431. Price 10*s.* 6*d.* net.

THE fifth edition of this book was reviewed at length in THE LANCET of August 10th, 1907, p. 372, and we then took occasion to commend its lucid and pleasant style, its scientific and careful character, and the candour and adherence to fact which are characteristic of the genuine searcher after truth. There are considerable additions, particularly in Chapter VII., which deals with the sphere of action of hypnotic treatment. The chapter still breaks the continuity of the theme of Chapters VI., VIII., and IX., which are concerned with the scientific explanation of hypnotism, instead of being transposed so as either to precede or to follow them. We are glad to note that the author now relies on his own experience only in the chapter of illustrative cases—which are not, however, greatly increased in number—and has omitted the recital of cases reported by other medical men. There is also a new note in the appendix on Spiritual and Mental Healing, and reference is made to the "Emmanuel method" in America.

Dr. Constance Long contributes a chapter on Professor Freud's Theories and Treatment by Psycho-analysis, which is intended to serve merely as an introduction for the uninitiated; for, as she observes, it is no easy task to give a true picture of Freud's psychology and psychotherapy in a short essay, partly because much of it is still in a fluid state.

The book still suffers from the very annoying defect to which we called attention in reviewing the previous edition—viz., the absence of page headlines descriptive of the subject matter of the chapters. The monotonous repetition of the title of the book at the top of every page is as irritating to those in search of a particular subject as it is entirely devoid of utility. Far better dispense with a headline altogether.

The book is an excellent introduction to the study of hypnotism.

Die Untersuchung der Nieren und der Harnwege mit X Strahlen.

Von Dr. BELA ALEXANDER. Berlin: Oscar Coblentz. Pp. 59. Price 16 marks.

THIS volume is a monograph on the radiography of the kidneys and urinary tract, and is mainly devoted to discussions of cases illustrated in over 40 large plates, which are the chief feature of the work, and are models of clearness and accuracy. Only one, however, is an actual reproduction of the original plate, or "positive" as the author insists that it shall be called, the others being mostly outline sketches reduced to two-thirds.

The book begins with a historical sketch of the evolution of the radiography of the kidneys from the first demonstration in 1896 of a stone by Macintyre, who used a Roentgen tube without accessories—undoubtedly the ideal procedure, but inapplicable in many cases. In 1897 Garrigou exhibited to the Paris Academy his so-called "condenser," which gave more detail in the plates and reduced the time of exposure. This was the precursor of the compression cylinder of Albers-Schonberg, of which the author uses Rosenthal's modification. We learn that the longest exposure employed is 10 seconds, but the author gives hardly any details of his technique, an unfortunate fact, as its excellence is abundantly shown in the plates, some of which exhibit details not often seen—e.g., the outlines of the spleen and suprarenal capsules.

Much stress is rightly laid on the importance of aiming at a representation of the actual kidney on the plate, but the author is not satisfied with merely an outline, but in favourable cases succeeds in obtaining a perspective or "plastic" effect that is certainly very remarkable. Fig. IV. shows such delicate shading that the kidney seems to stand out as a solid body, and the clearness of its relation to other structures, especially bones, almost reminds one of a dissection. A good plate should show the kidney, its size, contour, and position, the vertebral column, and two lowest ribs, the psoas and quadratus lumborum. These structures are portrayed in their natural size, as measurements of kidneys and calculi removed by operation have proved.

After a description of the normal appearances a series of plates is devoted to renal and ureteric calculi, and tubercle of the kidney, while conditions that may cause erroneous diagnoses are also shown—e.g., calcification of the cartilage at the tip of the twelfth rib. One plate shows several calcified nodules which are diagnosed as being situated not in the kidneys but in the perinephric fat. Lastly, a chapter is devoted to the radiography of the lower urinary tract with several illustrative cases worked out in detail with characteristic thoroughness.

The volume will be found most useful as an atlas of urinary radiography.

Trachoma and its Complications in Egypt.

By A. F. MacCallan, M.D. Cantab., F.R.C.S. Eng., Director of Ophthalmic Hospitals, Egypt. Cambridge: at the University Press. 1913. *Pp.* 74. *Price* 7*s.* 6*d.* net.

No one is better qualified than the Director of the Egyptian Ophthalmic Hospitals to instruct us on trachoma and its management. He has been indefatigable in his efforts to cope with this devastating disease where it is most rife, and he has brought to the work just those qualities which are most essential, though seldom combined in the same individual. With a thorough knowledge of ophthalmology and a sound judgment he combines exceptional administrative ability, and his efforts are being crowned with the success they deserve.

The book is founded upon the experience of more than eight years in Egypt. There will soon be 14 hospitals under the director's control, besides a number of travelling hospitals. During the year 1912, 341,211 attendances at the various hospitals were made by 28,029 patients, and 21,315 operations were performed. It is no exaggeration to say that nearly if not quite all these patients suffered from trachoma.

Dr. MacCallan reviews the history, climatic and racial variations, mode of infection, clinical features, and pathology of the disease. He has introduced a very useful classification of its stages: I., Incipient; II.*a*, follicular; II.*b*, follicular associated with papillary hypertrophy; III., early cicatricial; and IV., completely cicatrised. Stress is laid upon the varieties of acute conjunctivitis complicating trachoma. We read nothing of "acute trachoma," and our opinion, founded upon smaller experience, that the cases thus described are really ordinary trachoma complicated by an acute conjunctivitis, is confirmed. Part III. is devoted to treatment, and should be carefully studied by all who have to deal with these troublesome cases. In Part IV., the differential diagnosis, prognosis, influence of trachoma on ophthalmic operations, prophylaxis, causes of blindness in Egypt, and statistics are discussed.

Within the limits of 70 pages Dr. MacCallan has given us the quintessence of the subject, and we congratulate him upon the result.

Maladies du Cou.

Par Joseph Arrou, Pierre Fredet, et Ernest Desmarest, Chirurgiens des Hôpitaux de Paris. Avec 41 figures dans le text. Paris: J. B. Baillière et Fils, 1913. *Pp.* 166. *Price*, paper, 4 francs; bound, 5.50 francs.

This is a section of the large and important "System of Surgery," edited by Professor Le Dentu and Professor Delbet. It is written with the thoroughness which has characterised all the parts of the work hitherto published. Injuries of the neck, abscesses, and inflammations are considered in turn. The subject of enlarged glands is treated fully, and the authors draw attention to the disproportion which often exists between the small size of a malignant growth of the pharynx or œsophagus and the great enlargement of the corresponding glands. They also point out how often the supraclavicular glands are enlarged in malignant disease of such distant organs as the kidney, ovary, and testis; but the stomach and uterus are far more frequently the sites of the primary growth than are the other organs mentioned. An interesting section is that devoted to the study of the congenital cysts of the neck and the tumours arising from them. The volume contains also a chapter on torticollis.

Fortschritte der Naturwissenschaftlichen Forschung

Herausgegeben von Professor Dr. Emil Abderhalden, Direktor des Physiologischen Institutes der Universität Halle a S. IX. Band. Mit 102 Textabbildungen und 2 Tafeln. Berlin und Wien: Urban und Schwarzenberg. 1913. *Pp.* 280. Price, paper, 15 marks; bound, 17 marks.

Of the four articles which constitute the text of this volume, two—viz., the Present Position of Investigations in Regard to Lakes, and more especially of their temperature, by Professor W. Halbfuss, of Jena, and the Houses and Structure of the Habitations of Freshwater Insects, by Dr. C. Wesenberg-Lund, of Hillerød, Denmark—are of general interest, but the other two—the one on Diving, by Dr. Robert Stigler, of Vienna, and the other on the Significance of the Thymus Gland for the Organism, by Dr. Arno Ed. Lampé, of Halle a.S.—are of special interest to medical men.

Diving is considered from a physiological point of view in three groups: (1) Naked diving—i.e., with arrested respiration and no technical aid; (2) where the diver under water breathes through a tube which opens free to the air—that is, breathes the air at atmospheric pressure; (3) where the diver breathes compressed air, which either he takes with him in a closed vessel or is supplied to him from above. Full justice is done to the work of Dr. J. S. Haldane and to the well-known investigations of Dr Leonard Hill in this country. The physiological actions of water pressure are considered on the respiratory movements and the circulation A large number of the author's own observations are included in the text It is proposed in a second communication to give an account of the chemistry of respiration during diving or prolonged submersion

For medical men, however, the chief interest attaches to the article on the thymus gland After dealing with the phylogeny ontogeny, anatomy, morphology, and involution of the gland, its physiology is next passed in review From the historical point of view much may be left unread, as the early methods of excision (1845 onwards) were too crude to allow of conclusions of any value to be arrived at With improved surgical technique the effects of its removal resulted in the establishment of the fact by Basch in 1902 of the intimate relationship between the gland and ossification—the changes in the bones being most profound, a result confirmed by Klose and Vogt A description is given of the phenomena manifested by dogs after removal of the gland as observed by Klose and Vogt Its removal also affects the nervous system, leading to a condition which has been called idiotia thymopriva, and to a remarkable change in the relation of the peripheral nerves to electrical stimulation It is not a gland concerned in blood formation, but rather an organ with an internal secretion which may act on blood forming glands It is stated that in every case of Graves's disease there is an abnormality of this gland, and it is maintained that there is a dysfunction not only of the thyroid but of the thymus as well Short references are included as to its relation to the organs of reproduction

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The Microscopist's Vade Mecum A Handbook of the Methods of Microscopic Anatomy

By ARTHUR BOLLES LEE Seventh edition London J and A Churchill 1913 Pp 526 Price 15s net

THE last edition of this book was reviewed in THE LANCET of Oct 28th, 1905 Since then very considerable strides have been made in microscopical technique, and so far as we can judge from a judicious perusal of the 929 distinct subjects dealt with, the author has brought this vade mecum well up to date It is much more than a mere compendium giving methods useful to the human microscopist It takes practically all animated nature for its province, so that students of vertebrate as well as invertebrate structure will find a plethora of methods to choose from Indeed, for an inexperienced person there is almost too much In this edition something like 700 new entries have been made, but owing to judicious pruning the size of the book has not been increased

The general arrangement remains as before, with few illustrations, but an endless number of formulæ with references to the sources from which they are taken In Part I which occupies about one half of the text (pp 1–253), general methods are dealt with The methods of Gibson for the use of media for mounting, which do not call for essential oils or other clearing reagents have been introduced (paragraph 449, p 247) Objects can be mounted direct from alcohol, whereby unstained or insufficiently stained elements acquire the right degree of visibility, thus enabling the observer to see details which are invisible in the usual mounting media The media consist of solutions of gum sandarac in 'camsal" and other solvents "Camsal" is a liquid formed by the mutual solution of two solids—salol and camphor One of these media is called "euparal,' a mixture of camsal, sandarac, eucalyptol, and paraldehyde The new media can be obtained from Grübler and Hollborn, of Leipzig In Part II. special methods with examples are given In view of the importance of unicellular organisms as the cause of many diseases, the cytological methods have been carefully overhauled, while the sections relating to blood and blood parasites have been largely rewritten The advances in the technique of the nervous system have also demanded many changes and the incorporation of new matter The evidence of the importance of the neuro fibrillar structure of nerve fibres and cells has led the author to incorporate the new methods for their demonstration, while the section on neuro fibrils has been almost entirely rewritten Formerly the silver staining methods of the nervous tissues were often most capricious in their results The more certain and precise methods of Cajal are given at length from the original sources

The typography is excellent, with sufficient space between the sections while the titles in black lettering enable the reader quickly to pick out what he desires to find A compendium like this cannot be made all at once, it must grow by judicious additions and deliberate excisions and we think that in both these directions the author has exercised a wise choice The result is a reliable and up to date companion in the intricacies of modern histological technique

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Clinical Surgical Diagnosis for Students and Practitioners

By F DE QUERVAIN Professor of Surgery and Director of the Surgical Clinic at the University of Basle With 510 illustrations and 4 plates Translated from the fourth edition by J SNOWMAN, M D Brux London John Bale Sons, and Danielsson, Limited 1913 Pp 779 Price 25s net

IN our notice of the original of this work we recognised that it was above the average, both in design and execution and we are pleased to see it in an English version In each case which the author puts forward for study and elucidation he starts from the symptoms of which the patient complains, and so works up to the cause of the symptoms Little more than a glance is required to show the reader that the book is the product of an extensive knowledge of teaching the subject and an intimate acquaintance with the needs of the student There are more than 500 illustrations, and these have been chosen with care, the coloured plates also are clear Some represent the areas of the skin corresponding to the different nerve roots, another excellent plate shows diagrammatically the various forms of tuberculous disease of the knee, and in similar [illegible], where it is necessary, the help of illustrations is drawn upon The translation has been well done, and only occasionally do we meet with expressions which are not used in this country as, for instance, 'Fibro adenoma phyllodes and "cellular emphysema

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Die Serodiagnose der Syphilis und ihre Bedeutung für Diagnose, Therapie und Prognose

[illegible] Klinik fur Syphilo- [illegible] und Wien Urban [illegible] Price, paper, 7 marks, bound, 8 59 marks

THE importance of the presence of a positive Wassermann reaction on the diagnosis and prognosis of syphilis can hardly be over estimated, and therefore this reaction deserves to be carefully studied. It cannot be said that we have yet obtained the best method of applying the test, and any modification which will simplify it without impairing its trustworthiness would be a decided gain. Dr. Rudolph Müller's work is a thorough study of all the features of the subject. The various modifications are first given, and then the best form of the test, according to the author's opinion, is described in detail. The second portion of the book deals with the clinical aspect, and the author discusses the presence of a positive reaction in certain other diseases; next the value of the test in the different stages of syphilis; then the effect on the test of antisyphilitic treatment; and lastly, the use of the reaction in the treatment. A short bibliography of the papers contributed by the author on the subject is appended.

LIBRARY TABLE.

Lip-reading. By Edward B. Nitchie. London: Methuen and Co. 1913. Pp. 324. Price 5s. net.—This is a valuable little book, inasmuch as the author gives in it much personal experience from a double point of view—he speaks both as an expert lip-reader and as a teacher of that difficult accomplishment. The qualifications do not often run together. The book is divided into two parts. In the opening chapters of the first part will be found a very clear statement of the difficulties and shortcomings of deaf people, while the failure of the general public to be sympathetic towards the disabilities of the deaf is shrewdly noticed. The failure to help the deaf over some of the hard places of their lives is very common among us, and Mr. Nitchie's appeal loses none of its force because he is brave enough to be humorous where the situation he describes is often pathetic. To the deaf his advice is equally salutary. In a moderate yet forcible way he urges those who cannot hear to strive against the results of their deprivation, while he shows the public with what little inconvenience to themselves and with what little change in their usual social habits they can bring helpful intercourse to those bereft of one of the most important senses. Chapters IV. to XI., inclusive, deal with a general view of the method of teaching lip-reading and each of the lines that a teacher or pupil should work along contemporaneously. It is interesting to note how Mr. Nitchie dwells upon the training of the pupil's mind to follow thought as being equally important as that of training his eye to read words, or perhaps more so. It is not of necessity the possession of a pair of sharp eyes that helps to make a good lip-reader; an alert and receptive mind is wanted, and be it observed such receptiveness can only be cultivated by sympathetic instruction. Another important point on which the writer insists is the nature and speed of the speech which should be used to the lip-reading deaf; there must be no mouthing and no excessively slow speech, but distinct utterance. This is a hint that will be of great value to deaf people if it is taken by those in their environment. The second part of the book gives outlines of lessons and sections of lessons for use by both teachers and pupils. It includes stories and conversations, and sentence, word, and sound exercises. All such systematic instruction can be made of great use to adults who have lost their hearing and are studying lip-reading, as well as, to a large extent, to teachers. Doubtless the classification of sounds will present a new view to many, and indeed it gives room for discussion, but it is interesting as well as practical, for it has been arranged from the point of view of an experienced lip-reader. As a rule, we obtain our schematic information from teachers, not themselves dependent upon lip-reading for communicating with their fellow men. The series of lessons contains many useful points which could scarcely have been made by anyone who had not passed through the ordeal of losing one sense and learnt to substitute another for it. The book will be useful to teachers of the deaf, for they will understand better from it the difficulties of their pupils. The pupils will find in it much help and encouragement. And medical men might well recommend its perusal to those members of the public interested in social work. If people in general would read and apply the hints contained in the opening chapters, the everyday hardships of the deaf would be considerably alleviated. How real those hardships are is little appreciated, and as little is the valuable bond between the deaf and the world at large which is furnished by lip-reading.

Lippincott's New Medical Dictionary. A Vocabulary of the Terms used in Medicine and the Allied Sciences, with their Pronunciation, Etymology, and Signification. By Henry W. Cattell, A.M. (Laf.), M.D. (U. of P.). Third edition. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 1108. Price 21s. net.—In reviewing the first edition of this work in The Lancet of Feb. 18th, 1911, we expressed our satisfaction that this dictionary, unlike most of the other American medical dictionaries, had made no attempt to introduce innovations in orthography, but on the contrary tended towards conservatism. We are very glad to find this feature continued. In this edition alterations and additions have been made on 312 pages, and the definitions have been improved in many cases. The illustrations are not very satisfactory. On p. 862 a figure of schistosoma hæmatobium is given and ascribed to Braun, which is identical with, but much inferior to, the figure given in Webster's "Diagnostic Methods" (p. 562), where it is ascribed to Tyson, after Looss. The portrait of Professor Welch, moreover, is hardly flattering. It is indeed a question whether such pictures as those of generalised favus (p. 342), abrachia in an amelus (p. 5), Babylonian clay model of a sheep's liver (p. 513), pellagra (p. 701), a quack salver from an old print (p. 802), the portraits, and many others compensate for the waste of precious space they occasion, space which such pains have been otherwise taken to economise. Notwithstanding these criticisms the dictionary is a good one, and it would hardly be matter for wonder if in virtue of its orthography alone it secured a decided preference among English readers. It is interesting to note that under the word "Doctor," reference is made to an article in The Lancet of July 16th, 1910, on "The Title of Doctor in Many (55) Tongues."

Die Arbeitstätte des Chirurgieen und Orthopäden (mit Winken für Einrichtung von Privatkliniken). Von Dr. Oscar Langemak, Spezialarzt für Chirurgie und Orthopädie in Erfurt. Mit 45 Abbildungen. Jena: Gustav Fischer. 1912. Pp. 189. Price, paper, 5 marks; bound, 6 marks.—This is a very practical guide to the fitting-up of the consulting-room of a surgeon. Suggestions are given as to the furnishing of the waiting-room, and though in their entirety they are not quite applicable to this country they contain much that is valuable. The aim of the author is to give such directions for the establishment of a surgeon's rooms as to enable him to carry out the work he has to do in the most convenient manner, yet with the least expenditure of money, and especially to provide all the apparatus needed for orthopædic surgery. The second part deals with the establishment of a private hospital, and describes how it should be fitted with the necessary furniture and apparatus. The book is well written, and it should be useful to many surgeons in this country, though allowance will need to be made for the difference in customs.

Urologischer Jahresbericht, einschliesslich der [illegible] *ichen Genitalapparates.* [illegible] KOLLMANN und Dr. S. [illegible] rner Klinkhardt. 1912. [illegible] his very useful compilation must have entailed a great amount of work, but it has been well spent, for it will be of great value to all who especially devote themselves to this branch of surgery. The titles are given of a very large number of papers and articles which have appeared in the medical periodicals, and the more important have been abstracted. Such reference books are of very real service.

Reference Handbook of Gynæcology for Nurses. By CATHARINE MACFARLANE, M.D., Gynæcologist to the Woman's Hospital of Philadelphia. Illustrated. Second edition, thoroughly revised. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 156. Price 6*s.* net.—Dr. Macfarlane's little handbook contains a great deal of useful information arranged mainly in a tabular form and is well adapted for the instruction of nurses. There are a number of useful illustrations, principally of the instruments required for various operations, and these should prove helpful. The directions are clear and not too complex, and the author has been fortunate in her selection of the information she gives.

JOURNALS AND MAGAZINES.

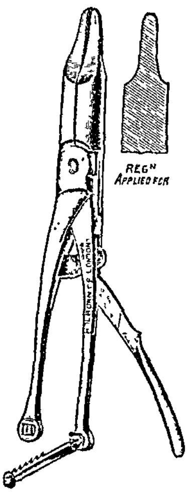
Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., Professor ALEX. MACALISTER, Professor ARTHUR THOMSON, Professor ARTHUR KEITH, and Professor ARTHUR ROBINSON. Vol. XLVIII., Part I. October, 1913. London: Charles Griffin and Co. Annual subscription, 21*s.* post free.—The greater part of the contributions published in this issue deal with anomalies and variations rather than with normal anatomy.—Congenital Anomalies of the Fifth Lumbar Vertebra are dealt with by Dr. J. Appleton Nutter, of McGill University. Many researches have been devoted to this markedly unstable region of the spinal column, but Dr. Nutter has advanced the study by means of X ray examinations of the living subject. He gives a series of tracings from skiagrams which are extremely instructive and worthy of more finished draughtsmanship than has here been devoted to them.—Mr. A. G. Timbrell Fisher gives a well-recorded case of Complete Absence of Both Internal Carotid Arteries. The study is a careful one and throws light upon the development of the stapedial arteries.—A case of Congenital Atresia of the Duodenum is described by Dr. Reginald J. Gladstone. The atresia occurred at the usual site in the entrance of the common bile-duct. The paper is admirably illustrated.—A valuable detailed study of the Anomalies of Bones in the Lacrymal Region is contributed by Mr. Hugo Flecker, of Sydney. The paper deals with cases of absence of the lacrymal bone and the analysis of examples of perilacrymal ossicles. —Mr. J. S. B. Stopford deals with Certain Anomalies of the [illegible] are discussed. Mr. Johnston considers that rupture of the cloacal membrane fully accounts for the condition present.—Normal anatomy is represented by a careful and well illustrated study of the Innervation of the Nodal Tissue of the Mammalian Heart by Dr. Jean Meiklejohn, and a paper on the Nomenclature of the External Genitalia of the Female, by Dr. F. Wood-Jones.—Professor David Waterston makes a contribution to technical methods of research by describing a process of Reconstruction in Modelling Clay.—A note on a skull said to be that of Emanuel Swedenborg is added by Mr. W. Rutherford.

Knowledge.—The November issue of this publication contains several articles of scientific interest, the longest being the story of the chin, by Dr. Louis Robinson, whose work on the prehensile power of infants and investigations on animal life is well known. The story of the chin deals with the evolution of the lower jaw bone, together with the development of the genial tubercles and the muscles of the tongue, and the author puts forward the suggestion that the chin may be considered part of the necessary mechanism of articulate speech. The article is illustrated with many reproductions of photographs of casts of jaws. The establishment of a race of white canaries with black eyes by Mrs. Maud S. Martin is another contribution which will appeal to those interested in the results of breeding. The author has succeeded in breeding true to colour. Professor A. W. Bickerston opens a series of articles on stellar spectroscopy for beginners, with an introductory sketch of the subject.

The Proceedings of the Prehistoric Society of East Anglia, Part III. of Vol. I, 1912–13 (London: H. K. Lewis), contains [illegible] the address deals with prehistoric chronology, a subject on which workers in many branches of science are daily throwing more and more light. Dr. Sturge's contribution to the subject centres round certain classes of striated neolithic flints, and the climatic changes induced by variations in the obliquity of the earth's axis. The address is well illustrated. Among other papers is one by Mr. H. Dixon Hewitt, who describes prehistoric human remains at Little Cornard, Suffolk, and an account of the Red Crag Shell Portrait by Dr. Marie C. Stopes, round which discussion has revolved for 32 years. There is also a report on the specimen by a committee of the East Anglian Prehistoric Society.

New Inventions.

AN INTESTINAL CRUSHING CLAMP.



THE crushing clamp here illustrated is intended for use during the radical abdomino-perineal operation for cancer of the rectum. The proximal half of the blade has been made nearly an inch in breadth in order that the crushed part of the pelvic colon shall be sufficiently wide to permit of easy division between two ligatures. The distal portion of the blade is much narrower as it is only necessary to crush the mesocolon, for hæmostatic purposes, along the line of division. The advantage of using this clamp is that it greatly minimises the risk of infection when the pelvic colon is divided.

The Holborn Surgical Instrument Company, Limited, Holborn Viaduct, London, E.C., have made the instrument for me.

W. ERNEST MILES,
F.R.C.S. Eng.
Upper Wimpole-street, W.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 29, 1913.

The Royal College of Surgeons of England: The Position of the Members.

AT the twenty-ninth annual meeting of the Fellows and Members of the Royal College of Surgeons of England, held on Thursday, Nov. 20th, at the College, Mr. BRINDLEY JAMES, in accordance with the notice published in THE LANCET, moved a resolution affirming the desirability of admitting Members of the College to direct representation on the Council of the College. The suggested alteration in the constitution of the College was supported by several speakers and carried as on previous occasions. This is a reform which has always been backed by THE LANCET in one shape or another, and we have never altered our position. But whereas not long since similar views were held by the majority of the Members of the College as an active part of their professional creed, it must be apparent to us all that to-day the Members as a body regard the inability either to sit upon the Council or to vote for those who shall sit upon it with considerable equanimity. A few years ago a substantial number of the Fellows of the College, and not only that, but a good proportion of the Council, were in favour of some such changes, some method of reform in the constitution of the corporation, whereby Members would be admitted to a share in the government; but those who can recall the origin and development of the movement must feel that it no longer has behind it the vitality and conviction of yore.

A letter from a veteran Fellow, wielding an ever youthful and incisive pen, appeared in our columns last week, and well represents what may be termed the aristocratic attitude towards the Members, but it would be a great mistake to suppose that any increase in the number of Fellows having this attitude would mean necessarily a greater feeling in that body against an extension of rights to the Members. Mr. BRUDENELL CARTER supplies reasons why nobody should be disappointed at not being a Fellow of the College if he has not passed the examinations and paid the fees; but the precise question with which we are now concerned is not whether the position of a Fellow should be made more accessible, but whether there is any reason why the Member, as such, should not be allowed a share in the choice of the Council of the College, or be himself eligible for a seat on that Council. Sir RICKMAN GODLEE, in the interesting address on the origin and growth of the College which he delivered on the occasion of the opening of the American College of Surgeons, alluded in a clear and definite manner to the demands of the Members for an increased share in the government of the College, and stated the reasons which now prevail with the College authorities for opposing the movement. It is probable that these reasons are shared to-day by many more Fellows and Members than was the case 20 years ago, and this is the point which those working in the cause of reform appear to miss, despite the evidence.

The arguments in favour of the proposed changes in the government of the College are still stronger than any that can be brought against them—at least, we are unable to change our views here—and there was a time not long ago when a part at least of what was desired by many Members of the College, backed by Fellows of high standing in the Council, seemed to be approaching realisation. But, and for reasons many of which appear in the files of this journal, fortune deserted the side of the reformers. A letter from Mr. WILLMOTT EVANS in our columns this week represents, we have no doubt, what many Fellows and Members of the College now think. The Society of Members of the Royal College of Surgeons of England are advocating, with fervour but without much judgment, a cause with which we have been long associated. And now the feeling of the Members upon the whole question has so slackened in intensity that it is difficult to say that any general demand remains among them for developments in the way indicated by Mr. BRINDLEY JAMES'S resolution.

The Leprosy Problem.

HOW to prevent and how to cure leprosy are pressing questions of the day, for England has many colonies and dependencies in which this terrible disease is prevalent year by year. In India there are thousands of lepers, while in Ceylon, the Straits Settlements, the Malay Peninsula, Australia, New Zealand, the islands of the Pacific, the Continent of Africa, as well as in our possessions in the Western hemisphere the malady is present. In a very interesting lecture delivered recently before the Royal Society of Medicine, and published in our present issue, Dr. H. BAYON, research bacteriologist to the Union Government of South Africa, discusses the "Leprosy Problem in the British Empire," and urges the enforcement of measures for getting rid of the scourge. Among other suggestions he presses strongly for compulsory registration of all lepers and their segregation in properly conducted asylums, or in settlements when the numbers are too great to be accommodated in such institutions. Dr. BAYON advises these measures, not only on the score of humanity, but also because they constitute a sound business policy. In this we fully concur, for few persons nowadays will argue that the prevention of disease is not a good investment for any nation.

The beneficial results of the segregation of lepers are not altogether confined to restricting the spread of the malady, for they include also the bringing of these unhappy sufferers under medical care and supervision in circumstances where, along with good food and shelter, appropriate treatment may have a chance of alleviating their condition, if not of curing their disease. The occurrence of imported cases in England need not cause much perturbation. Leprosy may be regarded as a malady of uncivilised or partially civilised races, and its chief predisposing causes comprise personal uncleanliness, overcrowded and dirty dwellings, combined with a dietary that is deficient in quality or insufficient in quantity. Though the precise way in which leprosy spreads is not definitely known, it is believed to be communicable from person to person, and is regarded as inoculable. Suggestion has been made that its diffusion may depend upon the agency of insects; and mosquitoes, flies, lice, bugs, and ticks have all been accused of transmitting the infection. Apart from isolation of the sick, the preventive measures should, in our opinion, be based upon improved sanitation, using the term in its widest sense. The eradication of the native filthy habits and customs which predispose to, and assist in spreading, leprosy is recognised to be a matter attended with many difficulties; it would therefore seem that the hope for the future must lie in the education of the rising generation in the elements of personal and domestic hygiene. While necessarily much time will have to be spent in thus educating the native peoples, it may be asked if nothing can be done by medical treatment to cure the unfortunate wretches already stricken with this loathsome disease? As we have already pointed out from time to time in these columns there is no specific remedy for leprosy, and few of the drugs put forward in the past have maintained for any length of time a reputation for benefiting the leper. Perhaps the remedy which has best stood the test of time up to the present is chaulmoogra oil, for it has the grave objection of often giving rise to unpleasant gastric disturbance. Recently, however, the use of a refined form of the oil has obviated this, especially when it is injected hypodermically, alone or in combination with camphor and resorcin. Good results from this method have been obtained at Manila, where at present a further extended trial of the remedy is being made.

Much was expected from the vaccine treatment of leprosy, but this can hardly be said to have advanced beyond the experimental stage. At one time high anticipations were raised by the claims of nastin, but these have not been realised in many cases; and since the unsatisfactory result of the prolonged trial of this remedy in British Guiana, under the personal direction of Professor G. DEYCKE, the originator of nastin, was made public, confidence in it has to a large extent been lost. Lately, however, interest in this method of treatment has been revived by a report by Captain L. B. SCOTT, I.M.S., civil surgeon of Sylhet, published as a supplement to the last annual report of the Sanitary Commissioner for Assam. In this details are given of 46 cases treated by nastin during the last three and a half years, the average duration of the treatment of the cases being 13 months. Captain SCOTT states that 40·8 per cent. were "cured" or "greatly improved," 45 per cent. were "improved," while 14·2 per cent. remained *in statu quo* or got worse. He believes that he is justified in regarding nastin as a very valuable remedy for leprosy and one that is "capable of curing not a few lepers, of restoring the health of the majority to a very considerable degree, and of arresting the progress of the disease, certainly for some years, in almost every instance if the treatment is started before the most advanced stages are reached." In comparing his own favourable results with the failures of others he suggests an ingenious explanation of this discrepancy. Some races of mankind are probably more susceptible to leprosy than others, and the more resistant would respond more readily to treatment than those who are less resistant. Nastin may be regarded as a kind of vaccine prepared by Professor DEYCKE from a culture of the virus taken from a Turkish leper. The action of vaccines is generally accepted as being specific. If, therefore, the suggestion be correct that specifically different strains of leprosy exist, it might be expected that nastin, prepared from a Turkish leper, would have an active effect upon lepers in Turkey or other Aryan countries, especially in Asia; while it would produce little or no effect upon lepers belonging to distant parts of the world inhabited by the Mongolian or Negroid races. Hitherto the most favourable reports on nastin have come from Turkey, Persia, and India, the unfavourable reports emanating from China, Japan, Australia, and South America. In order, therefore, to secure uniform success with this remedy Captain SCOTT believes that it will be necessary to prepare the nastin from virus taken from a leper of the country in which the treatment is to be applied. In any case, whether this be the right explanation or not, he insists that there should be no hesitation in giving the Indian lepers the benefit of nastin as it is now prepared.

The Definition and Treatment of Neurasthenia.

TO-DAY the term "neurasthenia" is a well-worn one. It sprang into being 30 years ago, or more, to signify a morbid condition as old, we may well believe, as human life itself, and after having been in circulation for the better part of half a century its serviceableness as coin of the realm of current thought is by some being called in question. An exact definition of neurasthenia is still to seek. The fact is that neurasthenia stands for a state or a symptom-complex which is neither specific nor pathognomonic, yet none, we imagine, will

The necropsy showed hepatic cirrhosis and fibrosis of the pancreas with degeneration of the parenchymatous cells. Of the three conditions found in hæmochromatosis—pigmentation of the skin, hepatic cirrhosis, and diabetes mellitus—the most constant is the cirrhosis, for cases have been recorded in which the cutaneous pigmentation and glycosuria were absent. However, in all cases pigmentation of the viscera and a certain amount of pancreatic fibrosis have been found post mortem. Though cirrhosis of the liver is always present the patients appear to suffer little, if at all, from the usual symptoms of this disease. The pigment present was first accurately described by von Recklinghausen, who differentiated two substances—hæmosiderin and hæmofuscin, of which the former contains iron. Lately, however, the idea has gained ground that these two bodies are varieties of the same substance. As to the pathogeny of the disease, three views have been brought forward: (1) That the diabetes is primary and produces the pigmentation; (2) that the hepatic cirrhosis is primary; (3) that the hepatic cirrhosis and diabetes are both due to some unknown toxin. The first view is now discredited, for the diabetic symptoms are terminal, and there may be no glycosuria at all. The second view is ably supported by two American writers—Potter and Milne. They point out that in most cases the cirrhosis is of long standing, and that in ordinary cases of cirrhosis of the liver pigment is frequently deposited in that organ. They consider that in rare cases of hepatic cirrhosis one of the metabolic products that escape destruction possesses hæmolytic properties, the result of which is the deposition of pigment. It seems to be more probable that the glycosuria and hepatic cirrhosis are the result of deposition of pigment in the pancreas and liver. This may be due to toxin of intestinal origin which so affects the cells of these organs that their manner of dealing with blood pigment is altered. The pigmentation ultimately leads to fibrosis.

THE CONNEXION OF BIG GAME AND TRYPANOSOMIASIS.

MORE than six years ago Mr. F. C. Selous, the African hunter-explorer, committed himself to the assertion that the disease of cattle and other domestic animals called nagana, or tsetse fly disease, already proved by Sir D. Bruce in 1896 to be a trypanosome infection, was limited to those districts in subtropical Africa in which the buffalo existed. When the buffalo disappeared, he declared, tsetse fly disease disappeared too; when it invaded an uninfected area there the disease broke out. Besides the buffalo he incriminated also the eland and some other species of big game, though in lesser degrees. These conclusions, be it noted, were based solely upon observations of the distribution of nagana and of game, though they had been anticipated on other grounds by Bruce. They were not put forward as original; and they were freely criticised by other big game experts, including Sir Alfred Sharpe and Sir F. J. Jackson, whose fame as experienced African hunters is almost equal to that of Mr. Selous. A full account of the controversy as it then stood, with a plea for the suspension of judgment and of death sentence upon the game until scientific research should have decided the question at issue, was published in the *Times* of Dec. 10th, 1907. Such researches, as Dr. J. L. Todd points out in a letter published last week,[1] have now been carried out. Koch, Bruce and his subordinates, Kinghorn, Yorke, and others have shown that many species of wild game harbour trypanosomes without exhibiting symptoms of ill-health; and that tsetse-flies which have been bred up trypanosome-free, and are then fed on infected wild animals, can convey fatal trypanosomiasis to susceptible domestic animals. Since the tsetse-fly cannot be exterminated and trypanosomiasis cannot be cured, it is tempting to suppose that a universal massacre of the wild game might conceivably abolish trypanosome diseases, sleeping sickness included. At any rate, there is a clear case made out for an experimental essay in a selected district to prove or disprove this theory and to clear up cognate questions of tsetse-fly bionomics. The experiment would necessarily occupy months, or even years, and the possibility of vitiation would require to be excluded by the most meticulous precautions against sources of error. For instance, even the crocodiles, if Koch's views are accepted, would need extermination, an exceedingly difficult end to encompass. If the game were convicted of acting as the sole trypanosome reservoir, the logical outcome would be the extension of the experiment to all habitable parts of Africa where trypanosomiasis has occurred. This argument is put with great force by Sir D. Bruce in the *Journal of the Royal Army Medical Corps* for November. The wholesale destruction of the African wild game would be most repugnant to every animal lover, and could only be justified by the most stringent necessity. But if complete proof is obtained that thus, and only thus, can tropical Africa be purged of these deadly plagues the death warrant must be signed, however heavy the hearts of the judges. We support Dr. Todd in his advocacy of Dr. Yorke's proposed experiment, provided that it can be planned so as to give a final and absolutely convincing result, scientifically unassailable.

PERIARTHRITIS AFTER HERPES ZOSTER.

CERTAIN sequels of herpes zoster—neuralgia, modifications of sensibility, muscular atrophy, cyanosis, and œdema—are well known, but articular or osseous lesions are little recognised. At a meeting of the Société Médicale des Hôpitaux of Paris on Oct. 31st M. Georges Guillain and M. Daniel Routier reported a case in which chronic periarthritis of the hand followed herpes zoster. A diabetic woman, aged 66 years, was admitted into the Saint-Antoine Hospital under the care of Professor Chauffard in September, 1913. In 1911 she suffered from herpes zoster of the left upper limb. The vesicles began on the back of the hand and then extended to the forearm. They covered the back of the hand and affected the intradigital folds, but did not extend beyond the first phalanges. On the forearm they remained localised to the dorsal aspect. There was continuous pain, with paroxysms at times, in the affected region. From the beginning the patient complained of stiffness in the finger-joints and could not close her hand; the attempt provoked pain. The eruption lasted 15 to 18 days, and after it disappeared there was œdema of the hand for a long time. When the pain ceased the stiffness of the joints still remained and the hand could not be used. In the two years which had elapsed there had been some improvement. On examination extension, separation, and approximation of the fingers were normal, but flexion both of [illegible]

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[1] THE LANCET, Nov. 22nd, 1913, p 1504.

shut her hand she could not do so; the fingers remained 3 or 4 centimetres from the palm. An attempt to complete passively the flexion revealed fairly strong resistance, and pain was produced. All the other movements of the upper limb were normal, and there was no alteration of sensibility. Radiography showed that the bones of the hand were normal. The changes were in the periarticular fibrous tissue. A few cases have been published of arthritic changes consecutive to herpes zoster, but in these the bones were affected. At a meeting of the Société de Neurologie de Paris in 1910 M. Guillain and M. Pernet reported a case of arthropathy of the hand localised in the area supplied by the affected nerve root. In 1911 M. H. Claude and M. E. Velter reported two cases of zona of the upper limb followed by lesions resembling arthritis deformans.

ASSISTANT MEDICAL OFFICERS OF ASYLUMS.

A MEETING of assistant medical officers of the public asylums in the Midlands of England was held at the Queen's Hotel, Birmingham, on Nov. 18th. The object of the meeting was to discuss the disabilities under which assistant medical officers labour. Thirty-five public asylums had been circularised by the provisional secretary, Mr. F. J. Stuart, senior assistant medical officer, Northampton County Asylum, and from 30 of these communications expressing sympathy with the object of the meeting were received. It was unanimously resolved that an association should be formed to protect the interests of this branch of the medical profession. A guarantee fund of £100 was raised and a provisional committee was appointed, but no further action was taken pending the meetings to be held by assistant medical officers in other parts of the country. These are announced as follows: 1. North of England and North Wales at the Midland Hotel, Manchester, Dec. 3rd, 3 P.M. 2. West of England and South Wales at the Royal Hotel, Bristol, Dec. 4th, at 3 P.M. 3. London and the South-East of England at the Westminster Palace Hotel, London, Dec. 5th, at 3 P.M.

URINARY FISTULA AT THE APEX OF SCARPA'S TRIANGLE.

THE name of "A Surgical Curiosity" is justifiably attached to an extraordinary case which has been published by Captain L. B. Scott, I.M.S., in the *Indian Medical Gazette* for October. A native, about 20 years of age, complained of a discharge of urine from his right thigh, with painful and frequent micturition. He stated that about two years previously an abscess formed in his thigh and burst, and that the hole had ever since discharged pus and urine. Pain and frequency of micturition had been more recent incidents of the case. The man was very weak, thin, and anæmic. His urine was foul and contained pus. At the apex of Scarpa's triangle on the front of the right thigh was a small sinus. A probe travelled along this for six or seven inches through the obturator foramen into the pelvis, where it impinged upon a stone. A sound passed into the bladder revealed the same stone. A lateral lithotomy was performed, and a large phosphatic stone removed from the bladder. The inside of the bladder, when explored by the finger, seemed to be a mass of fungating granulations coated with phosphates. This deposit was gently scraped away and the bladder well flushed out. The sinus was then thoroughly curetted; it soon healed and gave no further trouble. The lithotomy opening took several weeks to close, but in two and a half months the patient was able to leave hospital in greatly improved health, passing clear urine through the urethra, and with both the sinus and the perineal wound well healed. On sectioning the stone a piece of bamboo, an inch and a quarter in length by three-sixteenths of an inch in thickness, was discovered in the centre; round this nucleus successive layers of phosphates had been deposited. On carefully questioning the patient he then recollected having once fallen out of a tree, when a piece of bamboo had penetrated his thigh. It was pulled out and the wound healed up, the abscess subsequently forming at the place of entry.

PERFORATED DUODENAL ULCER.

IN the current number of the *Edinburgh Medical Journal* are published the results of a collective investigation of all the cases of perforated duodenal ulcer which occurred in the practice of the leading Edinburgh surgeons during the years 1896–1912 inclusive, a total of 200 cases being thus available for study. It is curious to find that in the first seven years of this period only 12 instances of the condition were recorded, from 1903–07, 43 cases, and from 1908–12 no less than 145. The condition is evidently rare, these 145 cases representing the total number occurring in a population of some 500,000 persons. No age is immune from the danger, 11 patients being under 20 years of age (the youngest of all a boy aged 14), while 15 cases were in patients between 60 and 70. Middle life is, however, the epoch of its maximum incidence, 138 patients being between 20 and 50 years of age. It is noteworthy that in nearly 10 per cent. of the cases there had been no previous dyspeptic symptoms, and in another 30 per cent. these had been trivial. No definite premonitory signs of perforation could be determined, but the most frequent time of its occurrence was about 1½ to 3 hours after a meal, the time when the pain of duodenal ulcer is usually most acute. The onset is signalised by sudden agonising pain, referred either to the umbilicus or to a point a little to the right of the middle line, though in a few instances it was greatest in the right iliac fossa or the hypogastric region. Vomiting occurred in the greater number of instances, but there was little febrile reaction. Severe vomiting and in rare instances hæmatemesis were of bad prognostic import, as was the combination of a subnormal temperature with a pulse-rate over 110. There were usually tenderness and rigidity of the abdominal wall in the region of the upper part of the right rectus muscle, and the liver dulness was absent or diminished in 89 out of 147 cases in which the point was noted; absence of this phenomenon is of no diagnostic import, while its presence is confirmatory of perforation. Apart from its action in masking important symptoms and making diagnosis difficult, the use of morphia appears to be advantageous, the ultimate results working out rather better in the cases in which it was given. In some 20 per cent. of all the cases there occurred a period of reaction a few hours after the perforation, in which pain and shock seemed to pass off and the patient felt so well as often to be unwilling to submit to operation. The procedure adopted necessarily differed in the various cases, a primary gastroenterostomy being done in some instances, not in others, and the peritoneal exudate being sometimes swabbed out, at other times douched away, in yet other cases left *in situ*. The results seemed to show that swabbing is an effectual method of treatment. The principal post-operative complications were bronchitis, pneumonia, and empyema, which together formed a total of 17 cases. Subphrenic abscess appeared in 5 cases, parotitis in 3, hæmatemesis in 4, while in 3 instances where the perforation could not be closed a duodenal fistula developed, and the patients died from rapid marasmus. Of the whole number (200) 121 recovered and 79 died, the percentage of recoveries rising in recent years. As to after-results, of 40 treated by suture alone 19 suffered later from dyspepsia and 8 were submitted to subsequent gastro-enterostomy. Of 52 treated by primary gastro-enterostomy only 5 suffered afterwards from dyspepsia. The reporters do not, however, consider the evidence sufficient to decide definitely the question as to the routine use of this procedure.

THE GRIEVANCES OF AUSTRIAN MEDICAL STUDENTS.

THE medical students of the University of Vienna have decided "to go on strike" because they regard the new rules pertaining to examinations as very unsatisfactory. Whilst under the old rules the students were permitted to pass the preliminary examinations in such an order that they found time to prepare also for the "Rigorosum," or severer examinations, at the same time, now they can no more do so, but are required to pass these preliminary ones within a certain time limit. Also the other examinations must be passed within a certain time of each other, and if this is not done the preceding ones will not be recognised as valid. The idea was to prevent the students from wasting their time with less important subjects. The students tried to obtain a modification of the rules to which they principally objected, and also to bring into force some other regulations which might be useful for them. As, however, their endeavours were fruitless they "struck" work. Our Vienna correspondent reports that negotiations are being held between the two parties, but so far without any result.

SUBDURAL INJECTION OF SODIUM BROMIDE IN DELIRIUM TREMENS.

FOR two years the patients admitted to the wards of the Cincinnati Hospital with delirium tremens, or developing it subsequent to admission, have been subjected with gratifying success to a method of treatment which is explained by Dr. S. P. Kramer in the *Boston Medical and Surgical Journal* for Oct. 30th. The amount of cerebro-spinal fluid is increased in delirium tremens to such an extent that from 50 to 60 c.c. can readily be withdrawn by lumbar puncture. The fluid thus obtained is very toxic, producing a fall of blood pressure when injected into dogs. It appears, therefore, that any measure which would substitute for this toxic fluid some influence counteracting the cerebral œdema, which, according to Dr. Kramer, is an important factor in the pathogenesis of delirium tremens, would prove a powerful weapon in the treatment of the disease. Animal experiments were undertaken with this end in view, the chief outcome of which was the discovery that a 1 per cent. solution of sodium bromide could be injected into the spinal canal without immediate or remote injury to the central nervous system. The next step lay in the application of this discovery to the human subject in delirium tremens. Withdrawal of as much as 50 to 60 c.c. of cerebro-spinal fluid is followed by injection of a similar amount of sterile 1 per cent. sodium bromide solution into the spinal canal with a syringe. There is no risk of increased intradural pressure. The sodium salt must be used; potassium bromide has irritant properties which render it unfit for this purpose. Twenty patients have been treated in this way, with results that Dr. Kramer calls brilliant. There is usually an immediate improvement which is only transitory; 12 to 15 hours later, however, the delirium disappears *permanently*. If a relapse should occur it may be controlled by a second injection. He illustrates his claims by a brief account of four cases, and if the experience of others should corroborate these accounts we are, indeed, in possession of a method of controlling this dangerous complication which will prove of the utmost value. He does not say whether any difficulty was experienced in performing lumbar puncture; patients with delirium tremens are not, as a rule, amenable to restraint, but even the most refractory subject could be controlled by an anæsthetic, a step which would be justifiable in view of the benefit to be obtained.

PATENT MEDICINES AND THE REVENUE.

THE Commissioners of Customs and Excise report that in the financial year ended March 31st, 1913, the number of licences issued to makers or vendors of patent medicines was 43,118 (39,849 in England and 3269 in Scotland), as compared with 43,131 in the preceding year. In 1912–13 the amount of duty collected in respect of these licences was £10,780. In the same year the net receipts from the medicine stamp duty was £328,319 (£325,420 in England and £2899 in Scotland), as against £327,857 in 1911–12. The duty does not extend to Ireland.

THE Bradshaw Lecture will be delivered in the theatre of the Royal College of Surgeons of England by Mr. G. H. Makins, C.B., Vice-President, on Friday next, Dec. 5th, at 5 o'clock. The subject of the lecture will be "Gunshot Wounds." Fellows and Members of the College are invited to attend. Others who are not Fellows or Members will be admitted on presentation of their visiting card.

AT a meeting of the Education Committee of the London County Council on Wednesday last a report from the Higher Education Subcommittee was confirmed, recommending that the Council should join with the University of London in representing to the Government the advantages of Somerset House as a centre for the University.

THE Home Secretary has appointed Mr. W. P. G. Graham, M.B., M.R.C.S., and Mr. G. F. Rogers, M.A., M.D., to be inspectors of vivisection under the Cruelty to Animals Act, 1876.

THE CHEMISTRY OF A CUP OF COFFEE.

FROM time to time numerous analyses of coffee have been made and published which, while giving some insight into the chemistry of the coffee berry, have not necessarily enlightened us as to the position of affairs in regard to the liquor obtained when coffee is prepared in the way commonly enjoined. The chemistry of the cup of coffee will obviously leave out of consideration the chemistry of the "grounds." It is the infusion with which the following laboratory notes deal, and certain fresh indications, we believe, have been obtained which are worth presenting in view of their medical interest. The story is far from complete, but there are interesting incidents in it which, as far as it goes, are worth recording.

A Comparison between Coffee and Tea.

From a pharmacological or, what should amount to the same, a dietetic standpoint tea and coffee ought in certain ways, at all events, to act similarly, since both contain the alkaloid caffeine which has a well-known and marked effect of stimulation upon the central nervous system. It is generally admitted, however, that the two beverages, though having one thing in common, afford different results. Tea, it is well to point out, contains a much larger proportion of the alkaloid than coffee, but in the preparation of tea in ordinary domestic practice a much smaller quantity of material is used than is the case with coffee. A common formula enjoined in the making of tea amounts to the preparation of 1·25 per cent. infusion of the leaf. Similarly, in the preparation of coffee the quantity of coffee usually directed to be used signifies a 6 per cent. decoction. Since tea contains from 3 to 4 per cent. of caffeine, and coffee seldom more than 1 per cent., it follows that as regards this alkaloid both infusions of coffee and tea made on common domestic lines will contain practically the same amount of caffeine volume for volume of fluid. The inference is that whether it be a cup of coffee or of tea, the dose of alkaloid will be the same. But according to the present investigation the caffeine in coffee infusion has quite different associates from those in tea. This would appear to be the case, inasmuch as while little caffeine is extracted from tea by cold water, we find that practically the whole of the caffeine in coffee is taken out. There seems to be little doubt, as we have shown in previous articles upon tea,[1] that the caffeine in tea is for the most part combined with tannin in the form of caffeine tannate, which is not very soluble in cold water, but is easily soluble in hot water. We think this is an important observation, for it points to the probability of caffeine existing in coffee in a quite different form which is easily soluble in cold water. Subsequent experiments showed that the caffeine in coffee is combined with a peculiar acid allied possibly to tannic acid, but exhibiting different properties from the tannin present in tea. Thus this acid (it has been called caffetannic acid by some observers) is not particularly astringent, has a sour coffee-like taste, does not coagulate gelatin, gives a light green colouration with perchloride of iron (whereas tannic acid of tea turns it black), does not make caffeine solutions thick as does tannic acid, does not precipitate alkaloids—e.g., quinine—and, in fact, shows altogether different properties from the tannic acid of tea. It gives a precipitate, however, with lead acetate from which the acid can be separated by sulphuretted hydrogen. When coffee infusion is saturated with ammonium sulphate a precipitate is obtained which contains a small proportion of the total caffeine in the free state, whereas a tea infusion similarly treated gives an abundant precipitate containing nearly all of the caffeine, this precipitate according to our observations consisting chiefly of caffeine tannate.

The Absorption of Caffeine Modified by its Associates.

The caffeine tannate of tea is precipitated by weak acids, and the presumption is that it is precipitated by the gastric juice, and therefore the caffeine is probably not absorbed until it reaches the alkaline alimentary tract. In the case of coffee, however, in whatever form the caffeine may be present, it is soluble in both alkaline and acid fluids, and therefore the absorption of the alkaloid probably takes place in the stomach. This fact may have an important physiological significance when we consider the comparative stimulating effects of the two beverages. If our view is correct coffee should act more promptly than tea as a stimulant and restorative, looking to its physiological action as due for the most part to caffeine. In practice it is generally accepted that coffee is a more powerful restorative than tea. The use of strong coffee as an antidote in poisoning by narcotics, notably morphia, is of interest in this connexion. Tea is mentioned for the same purpose, but only rarely. Apart from the consideration that caffeine has probably a more rapid action when taken in the form of coffee than in the form of tea, because the caffeine in coffee is more readily absorbed, it must also be remembered that coffee is often made with a generous proportion of the powdered bean as in the case of the after dinner "black" coffee, the view being that the secret of good coffee is to make it strong. This, of course, is an entirely æsthetic demand, which may likely enough be opposed to physiological morality.

The Strength of Cold Water Extracts of Coffee compared with Boiling Water Extracts.

The fact that the caffeine in coffee is completely soluble in cold water suggested making a comparison as to the composition of the cold and hot water infusions in regard to other constituents. For this purpose several types of coffee were chosen, all of which reached this country through Costa Rica. As will be seen from the accompanying table, the varieties examined were as follows: Raw (i.e., unroasted) Costa Rica, common quality; raw Costa Rica, finest quality; pale roasted Costa Rica, common quality; pale roasted Costa Rica, finest quality; high roasted Costa Rica, common quality; and high roasted Costa Rica, finest quality. The results are instructive, and we may proceed to consider the differences in composition of the infusions, both cold and hot, shown where raw, pale roasted, and high roasted coffee are employed, and the relationships, if any, of these differences to the discrimination supplied by the expert taster, who describes a particular coffee as, in his own words, "common" or "finest."

It is a somewhat remarkable fact that cold water extracts from coffee the same weight of materials as boiling water, but it must be admitted that the former infusion is somewhat less palatable than the latter. Chemically, however, there is little difference between them, and we may presume that physiologically a cold water extract of coffee will be much the same as a hot water infusion, leaving out æsthetic considerations, although these, of course, are exceedingly important, from all dietetic aspects. It is probable that cold water fails to extract certain oily bodies or fats which contribute attractive taste and aroma. The total extract is frequently higher in cold than in hot water. And not only is caffeine extracted from coffee equally well by cold and hot water, but this is true of the mineral salts and of the peculiar acid known as caffetannic acid, the acid which corresponds to the tannin of tea. In regard to the proportion of materials soluble in cold water coffee shows an entirely different result to tea, inasmuch as while coffee yields about 25 per cent. of its weight to cold water (an amount which is not increased when hot water is used) tea yields only 12 per cent. of its weight to cold water, which is increased to 25 per cent. when the infusion is made with hot water. Again, cold water extracts from tea only 17·5 per cent. of its total caffeine, while from coffee it extracts the whole. Similarly, cold water extracts from tea 13 per cent. of its total tannin, while coffee under the same treatment yields practically the whole of its caffetannic acid.

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[1] The Chemistry, Physiology, and Æsthetics of a Cup of Tea, THE LANCET, Jan. 7th, 1911, and Dec. 2nd, 1911.

The Effect of Roasting.

An infusion of green or unroasted coffee is singularly nasty to the palate, and it follows that the roasting process renders coffee the palatable article that it is. The chemistry of roasting amounts largely to a caramelisation process, during which certain oils and aromatic principles are formed as products of a mild destructive distillation. Curiously enough, there is little loss of caffeine in this process, as our results show, which is remarkable in view of the fact that caffeine sublimes at high temperatures. There are two degrees of roasting adopted—viz., pale roasting and high roasting. The important chemical effect of roasting, according to our analyses, is to diminish considerably the amount of caffetannic acid. If the figures in the table be consulted it will be seen that while in an infusion of raw coffee (unroasted) the caffe-tannic acid amounts to 9·60 per cent., it is in the pale roasted 6·60 per cent., while by further roasting, as in the "high roasted," it is reduced in the infusion to from 3·63 to 3·90 per cent. What part caffetannic acid exactly plays as a dietetic constituent of coffee it is difficult to say, but if it should prove to be an undesirable element, then the high roasted coffees are least open to objection on this account. It may be noticed also that the raw coffee yields a greater percentage of soluble constituents to both cold and hot water than high roasted coffee, the pale roasted coffee showing intermediate results. Roasting, amongst other things, has, therefore, the effect probably of rendering certain bodies insoluble—e.g., albumins—while the slight burning effect upon carbohydrates would produce possibly some free and of course insoluble carbon.

The Analysis of Hot and Cold Infusions of Coffee.

Constituent.	Raw Costa Rica (common).		Raw Costa Rica (finest).		Pale roasted Costa Rica (common).		Pale roasted Costa Rica (finest).		High roasted Costa Rica (common).		High roasted Costa Rica (finest).	
	Hot infusion.	Cold infusion.	Hot infusion.	Cold infusion.	Hot infusion.	Cold infusion.	Hot infusion.	Cold infusion.	Hot infusion.	Cold infusion.	Hot infusion.	Cold infusion.
Total extract ...	29·16	30·83	29·60	31·50	25·33	24·00	23·50	25·66	24·30	24·00	25·60	23·00
Ash of extract ...	4·16	3·88	4·00	3·88	4·16	5·66	3·50	4·50	4·66	4·00	4·00	4·50
Caffetannic acid...	9·60	8·63	9·66	7·83	6·10	5·80	6·60	5·90	3·90	3·16	3·63	3·87
Total caffeine ...	1·00	1·33	1·21	1·56	1·11	1·11	1·05	1·06	1·23	1·11	1·05	1·20

Quality of Coffee in Relation to Chemical Composition.

From the results recorded in the table it will be seen that no definite relation can be traced between the æsthetic quality of coffees, classed respectively as "common" and "finest," and the chemical composition of the infusions which they yield. It may be noted that there is no important difference in the amount of the drug caffeine when the common and finest varieties are examined. It is probable that the æsthetic values—flavour, body, aroma, and so forth—are related in some way to the amounts of oil bases or aromatic principles present, and these are in any case minute. Whether they are present in appreciable quantity or not doubtless depends upon the care spent upon the roasting process. At any rate, it is conceivable that a point in the roasting process could be reached which would deprive the coffee of all attractive flavour, while it is certain that the infusion of the raw unroasted berry is not fit to drink on account of its unpleasant taste. Recently it has been announced on more than one occasion that pyridin is an important constituent of coffee. We have certainly found it present, but not in sufficient quantities to estimate. It is rather a curious fact that some authorities mention that coffee often relieves asthma, while pyridin is described as "useful in the treatment of asthma" and "beneficial in cardiac dyspnœa, emphysema, and angina pectoris," and, finally, that "it is probably the relieving agent of various cigarettes and powders smoked or burnt for asthma and whooping-cough." Another constituent of coffee produced by roasting is caffeol, a nitrogen-containing oil, but it would be impossible to differentiate the quality of coffee upon an analysis pursued in this direction, inasmuch as the amount found does not exceed more than 0·06 per cent. It is doubtful whether it has any further value from a dietetic point of view than that supplied by its influence in pleasing the senses. When isolating caffeine from coffee infusion the solvent (chloroform) takes out also a non-crystalline substance which unlike caffeine is soluble in ether. This substance has a very strong, pleasant, but somewhat bitter flavour of coffee. The yield is different according to the quality of the coffee examined, and it is possible that this principle is a determining factor in the judgment given by the expert coffee taster. It is a product of roasting and does not exist in raw coffee.

Food Value of Coffee.

The infusion of coffee presents practically very little material that is of direct nourishing value, but by diminishing nervous fatigue, by virtue chiefly of the caffeine present, it may increase muscular power It is not itself a builder of tissue The use of coffee after dinner, it is of interest to note, is justified in a large number of cases by the fact of its stimulating effect upon the Vital centres, and it is said to serve to some extent as an antidote to alcohol It is commonly claimed to remove drowsiness, as a matter of fact, in many subjects it produces drowsiness, but this is usually *followed quickly by marked wakefulness* The practice of drinking coffee after a meal for the sake of the stimulus which is experienced has much to be said in its favour dietetically There is no reason for supposing that coffee possesses any value as a food The berry contains a quite important proportion of fatty substances (12 per cent average), but these are necessarily excluded from the infusion, as owing to their insolubility they remain in the ' grounds"

According to our analyses again the protein contents of a cup of coffee are small, approximating to 1 25 per cent of the coffee extracted This amount can have little dietetic significance There is also a trifling quantity of dextrin and sugar present besides traces of alcohol, which again can possess no importance from a physiological point of view.

REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1911

(Concluded from p 1493)

Health of the Indian Army

THE *average strength of Indian troops in 1911 was* 131,213, the admissions to hospital were 515 8 per 1000, the number constantly sick 19 8, the deaths 4 48, and the invalids 4 43 per 1000 If the deaths of men on furlough be included the ratio is 6 78 These ratios are all the lowest on record except that for the total number of deaths (including men on *furlough), which was only 6 42 in 1909* The chief causes of sickness were malaria (105 admissions per 1000) to which may be added pyrexia of uncertain origin (31) and sandfly fever (0 9), next, respiratory diseases (30 2) dysentery (22 6) and venereal disease (14 9) The most fatal disease was pneumonia (0 98 death per 1000), next enteric fever (0 42) malaria (04 2), and respiratory diseases (0 34) The *Northern Army* showed an *admission* rate (571 6) and a death rate (5 26) higher than those in the Southern Army (510 5 and 4 17 per 1000 respectively) but this disparity was less than usual The highest admis*sion ratios were for troops on the Western Coast (Bombay,* Cannanore, &c) 983 9, at Rangoon and Port Blair, 741 9, and in Burma inland 742 6 The large stations that suffered most from malaria were Bombay (646 admissions per 1000), Dera Ismail Khan (410) Hyderabad, Sind (411), but, as already mentioned, 1911 was not a fever year The Bombay outbreak (over 400 cases occurring in October, November, and December in the 96th Berar Infantry) appears to have been due to the regiment encamping in jungle at the foot of the Western Ghats in October, at Hyderabad the prevalence was due to swamping of the cantonments and city, at Bangalore the presence of marshy ground within the regimental lines is stated to have been the cause—the improvement of this is "under consideration" At Mandalay over 400 cases occurred, mostly in the latter half of the year There are numerous anopheline breeding places in channels leading into the moat In one regiment (the 92nd Punjabis) the admissions were only one third of those in the 91st Punjabis, the *former* body having been provided with mosquito curtains The treatment of anopheline breeding grounds is "being proceeded with" Tubercle of the lungs continues to show a most satisfactory decrease· the admissions were only 2 1 per 1000, the lowest rate hitherto recorded Among Gurkhas the admissions were 3 6 and the deaths 0 70 per 1000, excluding Gurkhas these ratios were 1 9 and 0 14 Pneumonia is still much the most frequent cause of death in the *native army, the mortality* ratio being 0 98 per 1000 This, however, is a great improvement on the ratios for 1910 (1 34) and for the decennium 1901–1910 (2 26 per 1000) Venereal diseases (14 9 admissions per 1000) show a reduction on the preceding year (16 9) and on the decennial ratio, 1901–1910, which was 21 per 1000 The Gurkhas at Almora gave the high admission rate of 105 per 1000

Health of the General Population

The vital statistics for the various provinces of British India have been calculated on the populations ascertained at the Census of 1911 which, however, are not stated in the report According to "Whitaker s Almanack," the population of British India at this Census amounted to 244 267,542 persons The birth rate for the whole of British India was 38 58 per 1000, compared with a mean *ratio of 37 88 for the previous five years There was con*siderable variation in the rates for the different provinces, that for Madras being 30 4 while in the Central Provinces it was as high as 49 4 The ratio was below the quinquennial average in Eastern Bengal and Assam, Central Provinces, Madras, and Lower Burma, in the remaining provinces it exceeded the average The death rate was 32 01 compared with 34 85 for the preceding quinquennium The lowest provincial ratio was 23 1, in Madras, and the highest, 44 95, in the United Provinces The ratio was above the quinquennial average in the United *Provinces* and in Ajmer Merwara, in all the other provinces it was lower Of the total 32 01 per 1000 death rate, "fever" accounted for 17 63, and in the United Provinces the ratio of *such deaths reached* 27 94 *per* 1000, while in Madras and in Upper Burma it was only 7 4 per 1000 Plague caused 733 582 deaths, equalling 3 07 per 1000, the areas chiefly affected were the Punjab (8 89 deaths per 1000) the United Provinces (7 09) and Bombay (5 13) Cholera caused 354 000 deaths (1 48 per 1000), Bengal (2 37) and the United Provinces (2 51) being most severely affected Small pox, with a death rate of 0 25 prevailed chiefly in Madras, where the ratio was 0 6 per 1000

Indian Jails

The mean daily number of prisoners in India, Burma, and the Andamans during 1911 was 109 099, among whom the death rate was 19 09 per 1000, compared with 22 57 in the decennium 1901–1910 Excluding the Andaman Islands, where the conditions of life differ widely from those in other Indian prisons the death rate was only 18 44 per 1000, ranging from 11 29 in the North Western Frontier Province to 33 65 in Eastern Bengal and Assam The chief causes of death were tubercle of the lungs (3 65 per 1000) dysentery (2 91), and pneumonia (2 37) The most prevalent diseases were malaria (which caused 113 8 admissions per 1000) abscess, ulcer and boil (61 6), and dysentery (56 6) [illegible] former years, the adn[illegible] 1904–08 having been 1[illegible] 238 4 This is extremely satisfactory, and although the general conditions were undoubtedly favourable, the improvement that has been so marked during the last three years is most creditable to the administration, and a proof of the efficacy of the antimalarial methods employed, quinine prophylaxis is most relied on Dysentery showed a slight reduction, the admission and death rates being 56 6 and 2 91 respectively, in Eastern Bengal and Assam, however, the admissions rose to 223 7 The jail population in this province has increased, and there has been considerable overcrowding A serious outbreak occurred in Raipur Jail (Central *Provinces*) where there were 252 cases Major Forster s antidysenteric vaccine was employed with excellent results [illegible] tubercle caused an admission rate of 10 5 and a [illegible] both increases on the previou[illegible] taken to prevent overcrowding, which is an important factor in causation

Vaccination

There was an increase in vaccination in every province, except Coorg, the greatest increase being in Eastern Bengal and Assam, Punjab and Burma The quality of the operation has also improved, the percentage of success in primary operations having been 96·34, and in revaccinations 72·82. The percentage of infants protected now reaches 48·01; the ratios varying, however, very greatly, from 69·18 in the Central Provinces and 65·79 in Punjab, to 19·02 in Burma and 8·54 in Coorg.

Medical Institutions.

Throughout India there exist 2707 hospitals and dispensaries, at which the number of in-patients treated amounted to 460,671; the operations performed numbered 1,139,060; and the out-patients relieved totalled 28,055,847. There are in addition 1535 private, railway, and "State-special" hospitals and institutions, at which an additional 6,880,857 patients were treated; and 22 lunatic asylums, having an average of 5981 patients, of whom 2124 were criminal lunatics.

Sanitary Works.

In Bengal it is stated that there is a steady improvement in the working of the septic tank installations, that the septic tank latrine is now "practically perfect in design," and that a satisfactory type of distributor has been evolved for the filter beds. In the United Provinces interest in sanitation is growing among the inhabitants of the larger towns and the resulting improvements in health and comfort are becoming widely recognised.

General Remarks.

In the concluding section of the report a brief account is given of the numerous scientific investigations that have been carried out by the staff of the Research Institutes, of which there are now four in active work in India. By the Central Institute, Kasauli (in the Himalayas), researches have been made into the causation of dysentery, the occurrence of malaria in the Andamans, and of kala-azar in Eastern Bengal and Assam. Six classes of practical instruction have been given during the year at Kasauli and a class of instruction in malaria prevention at Amritsar. Over 30.000 doses of antivenomous serum have been issued, and more than 14,000 of typhoid vaccine, besides many others. The laboratory at Bombay was conducted both as a provincial laboratory and as a plague laboratory for the whole of India. No less than 1,211,170 doses of anti-plague vaccine were issued, nearly twice as many as in the previous year. In consequence of unusually severe reaction after inoculation being complained of in some instances, only "mature" vaccine was issued as far as was possible; and in the case of fresh vaccine the reduction of dose from 4 c.c. to 3 c.c. was recommended. After many failures the investigators succeeded in breeding wild rats (M. rattus) in captivity, and found that in time a race of rats is evolved naturally immune to plague; in process of time, therefore, plague may disappear from India. At the Kasauli Pasteur Institute 2268 patients were given antirabic treatment; statistics are detailed for the whole period during which the institute has been at work, viz., from 1900; 13,580 persons have been treated, of whom 0·6 per cent. were reckoned as "failures"—i.e., they developed symptoms *after* 15 days subsequent to the completion of the course. The total deaths numbered 225, or 1·7 per cent., but in all except 81 cases (0·6 per cent.) the symptoms developed either during, or within 15 days after completion of, the treatment, the fatal result being thus due to delay in treatment being obtained. At the Coonoor Pasteur Institute in Southern India 940 patients were treated; there were 8 deaths in all, and the percentage of failure was 0·53. An account is given of the Indian Research Fund established during the year; investigations are being carried on into kala-azar, cholera, and yellow fever. A special survey is being made of the "New Imperial Delhi" as regards malaria, by Captain E. C. Hodgson, I.M.S. The proceedings of the All India Sanitary Conference at Bombay in November, 1911, are summarised in the concluding paragraphs of the report. This is full of interest, though (like that of last year) much shorter and more condensed than used formerly to be the case.

THE LATE PROFESSOR GOLDMANN.—According to the *Times* a lecture in memory of the late Professor Edwin Goldmann was delivered at Freiburg University, Baden, last week. Professor Aschoff, in speaking of Professor Goldmann, drew attention to his eminence in surgery, and especially to his valuable experiments in pathological anatomy.

ANNUAL REPORT FOR 1911 OF THE REGISTRAR-GENERAL.

(Concluded from p. 1492.)

IN resuming our notice of this report comment will be restricted to matters which are outside the scope of the annual summary already published.

Standardisation of Death-rates.

From time to time efforts have been made in these reports to correct rates of mortality by allowing for local differences among the living with respect to sex and age; for, in default of such correction, crude rates are obviously misleading. A population containing relatively few infants and aged persons, as well as an excess of females, will naturally experience a lower death-rate than one in which the opposite conditions prevail. In previous reports both the "direct" and the "indirect" methods of making the necessary corrections have been described, the former of which, although theoretically more accurate, has been found impracticable for general application. By the indirect method the favourable or unfavourable character of the age and sex constitution of the population in relation to mortality is first assessed, and then the recorded mortality rate is modified to compensate for the differences thus disclosed. Populations which from their favourable composition enjoy an advantage as compared with the standard population of England and Wales have their mortality increased by the application of a standardising factor, while the mortality of unfavourably composed populations is diminished by the same process. The factor, once determined, necessarily remains constant until either a new census or an alteration of boundary reveals a change of population. Consequently the labour involved is much less than by the direct method, the calculations for which must be made afresh each year. The death-rates of England and Wales in 1901–1910 represent the "foot-rule" by which the constitution of each population is measured. From a table it appears that according to this measure the average death-rate since registration began in this country has been 19·5 per 1000 living, against 14·3 per 1000 in 1911. In the period 1861–70 the rate stood at 21·3, and even so recently as 1891–95 it was 18·5, since which date the fall has been rapid.

Mortality in Relation to Sex.

In the year under notice the standardised mortality of males exceeded that of females by 15 per cent. This excess, which has been gradually increasing since 1837, had never been so great in any previous year. Up to about the year 1860 the excess had been only 6 per cent., but for the last 15 years it has averaged 14 per cent. Since the quinquennial period 1841–45 the standardised mortality of females has fallen by 33·8 per cent., while in that of males the fall has been only 28·2 per cent. In infancy the mortality of males is large; it gradually increases from childhood to a maximum in later middle life, and again declines with advancing age.

Mortality in Relation to Age and to Locality.

Among the new tables now presented one (Table 16) is particularly interesting as affording the means of comparing the mortality at each age in the various classes of area in different parts of the country. This table shows the constancy with which the mortality of both sexes in the north exceeds that of other parts of England. The excess is shared by nearly every age group of both sexes in all classes of area. The causes entailing the higher mortality of the north apply impartially to all ages of both sexes and to all classes of area, but what may be the nature of these causes there is no sufficient evidence to decide. As between the midlands and the south there is little difference, the premier position in the various sex and age groups being almost equally distributed among them. Wales stands intermediately between the north on the one hand and the midlands and south on the other. But its mortality is heavier than that of the north at ages from 15 to 35. This is mainly due to excess of female mortality at these ages in all classes of area, but the mortality of males also in the rural Welsh districts is higher than the corresponding rates in the north of England at most ages from childhood to the end of life. Compared with English experience, tuberculous phthisis is exceedingly fatal among the young women of Wales But apart from phthisis, there appear to be other conditions affecting young [illegible] incipality which make their [illegible] her compared with that of [illegible] age or with the remaining [illegible]

Mortality in Infancy and Childhood

In view of the supreme importance rightly attaching to the preservation of life during the earlier years of child hood, it is significant that the Registrar General should now extend his survey of young mortality so as to include the loss of life incidental to the period of exclusively home influence—i e from birth up to the commencement of school age This is done in a new table which gives the mortality during the second year of life and the mean annual mortality between the ages of 2 years and 5 in each of the principal areas dealt with Another table shows, for the same areas, the survivors out of 10,000 births at the end of the first, second and fifth years of life respectively The above tables relate to the year 1911, but when the records of successive years have accumulated, a mass of statistical evidence will be available which will materially increase our knowledge of the causes of the still prevailing waste of human life in childhood According to the experience of 1911 the deaths of infants in the first year after birth constitutes 21 7 per cent of the mortality at all ages This was the highest proportion since 1906, and before that year a lower rate had been recorded only once—namely, in 1905 Respecting the local distribution of infant mortality in 1911, we learn that for infants of both sexes jointly the rate varied from 152 per 1000 births in the county boroughs of the north to 86 per 1000 in the rural districts of the south The constancy with which this rate is increased in towns by the local conditions of life is notorious From a table it appears that infantile mortality ranges from 147 in the county boroughs to 104 in the rural districts of England But the fact that the rate in London was much below that of the county boroughs and slightly below that of the smaller towns indicates that much of the excess associated with town life is avoidable since it is not experienced by the largest urban population in existence The range of variation in the second year of life is very much greater than in the first It extends from 19 5 per 1000 in the southern rural districts to 59 5 in the county boroughs of the north The mortality in the rural districts generally at this age is less than half that of the county boroughs, notwithstanding the fact that a larger proportion of weaklings has already been removed from the population of the latter by higher mortality in the first year of life The result of aggregating the foregoing mortalities shows that of children born in the northern county boroughs 23 5 per cent die before completing their fifth year, while in the rural districts of the south the loss by death is only about half that proportion, or exactly 11 7 per cent

Causes of Death, Primary and Secondary

Up to this point consideration has been limited to the general death rate without reference to cause So far the statistician is on safe ground But when the attempt is made to discriminate among the several diseases causing mortality it is necessary to proceed with extreme caution The reasons for this have been repeatedly discussed in this country, and have never been more clearly set forth than by Dr Horst Oertel in an article on the inaccuracy of American mortality statistics recently noticed in these columns[1] As long as the prejudice against necropsies persists and the vast majority of deaths in this country are registered on clinical evidence alone, just so long will it be justifiable that the accuracy of medical certification respecting particular causes of death should be called in question This is not to depreciate the efforts of the Registrar General, who makes the best possible use of the registers in his custody Far from this, we would once more express our high appreciation of the painstaking manner in which the statistics respecting particular diseases or groups of diseases are presented in the successive reports of the National Register Office

The elasticity of the card system for statistical purposes is further illustrated by the tabulation for the first time of the secondary causes of the deaths primarily attributed to infectious diseases Important information with respect to these diseases as causes of deat hand to the combinations of fatal diseases will now be made available by the opera tion of this system

The Fatality of Tuberculosis and Cancer

As regards the fatality of the principal diseases spa e remains for a few remarks only For details reference must be made to the section of the report contributed by Dr Stevenson

The proportions in which the more important diseases contribute to the death roll are shown by an ingenious diagram in which the whole area of the circle represents the deaths from all [illegible] deaths from particu[illegible]

As might have [illegible] devoted to the two diseases to which public interest has been exceptionally attracted in recent years—namely, tuberculosis and cancer The chief constituent in the first mentioned *condition is phthisis a term which is now used to cover both* pulmonary tuberculosis and ‘phthisis’ not otherwise defined Together the deaths thus returned amount to 74 per cent of the total deaths from tuberculous disease, and to 7 4 per cent of the death rate from all causes The standardised death rate from phthisis was slightly lower in 1911 than in any of the preceding five years, the fall being greater among males than among females Phthisis mor tality increases with "urbanisation" from a minimum in the rural districts to a maximum in the metropolis The effect of town residence in increasing phthisis fatality is mainly confined to the male sex, the standardised death rate among whom in London is nearly twice that in the rural areas, whilst in the case of females the excess is only 18 per cent The statistics of malignant disease continue to be of great and increasing interest The disease seems to show no abatement the mortality of both males and females in the year under notice being the highest hitherto recorded Cancer appears to be more destructive in the urban than in the rural districts There is little evidence of the prejudicial effect of town dwelling upon the female sex but, generally, the standardised cancer death rate rises from 689 per 1 000,000 in the rural districts to 1016 per 1,000,000 in London

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS

Annual Report of the Asylums Committee for the Year 1912-13

THE accommodation for insane persons provided by the London County Council has now over a considerable number of years been kept abreast of the total number of patients for whom the Council has been responsible There has been a steady rise in the number of insane persons, out of proportion to a rise of population and having no ascertain able relationship with ordinary pauperism Population declines, but it need not be assumed that because the number of lunatics increases there is some radical defect in conditions of life in London predisposing to mental breakdowns The report submits that the increase year by year in the total number of patients is accounted for in great measure by a lessening asylum death rate and by a decrease in the number of discharges, leading to the accumulation of an increasing total of persons under care, as well as by the fact that more persons are sent for asylum care now than formerly The number of known cases of insanity is thus increased, though there is not a serious increase in the number of fresh cases of mental disease occur ring per 1000 of population, indeed there is good reason to believe that the number of occurring cases of insanity is really not at all increasing At the beginning of this year the Council was primarily responsible for the accom modation of 20 930 persons The number of beds available in the county asylums fell short by 656 of the number of patients for whom the county was liable to find accommo dation The difference has been made up by means of reception contracts with other asylums but to increase the Council s own accommodation expenditure has been authorised for the erection on the vacant site on the Horton estate of an eleventh asylum, in which 2066 beds are to be provided. The Council has further authorised a capital expenditure of £56,000 for the erection and equipment of the Maudsley Hospital. The committee congratulates itself on being able to report substantial progress towards the provision of this institution. The progress if substantial has been extraordinarily slow. It appears that the hospital will add 100 beds to the total accommodation provided for the county. The total number of cases under treatment during the year was 23,793. There were admitted 3675 cases. 1837 cases were discharged and 1664 persons died. The percentage of total recoveries on total admissions was 25·11; of total recoveries on direct admissions 26·93; and of recoveries yielded by direct admissions calculated on the direct admissions 26·20. The percentage of deaths on average daily numbers on the registers was 8·22. The pathologist's report is indicative of the large amount of work done at the pathological laboratory by Dr. F. W. Mott himself and by those who have worked with him. The work done has been embodied in papers read before various societies or otherwise published.

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[1] THE LANCET Nov 15th 1913 p 1409

The Provision of Street Ambulances.

With reference to the decision of the Council to make all possible use of existing agencies for the purpose of establishing an ambulance service for London,[1] the General Purposes Committee recommended—

> That the Metropolitan Asylums Board be invited to prepare and submit to the Council for its consideration a detailed scheme, with estimates of cost, of cooperation with the Council and other authorities in the establishment in London of an efficient ambulance service for street accidents.

Mr. P. A. HARRIS moved an amendment to substitute for the recommendation the following:—

> That inasmuch as there is no authority in London which has the necessary stations or appliances with which to commence a satisfactory system of ambulances for [illegible] t of supplying and working the same mu [illegible] rate, a special commi [illegible] as to the best methoc [illegible] ise an ambulance system on the [illegible] the City of London, and as to the cost of bringing such a scheme into operation.

Mr. J. D. GILBERT, who seconded, said the Committee's proposal only meant further delay, and that a service of 12 ambulances could be provided in the rest of London—i.e., excluding the City—for £12,000.

Mr. ERNEST GRAY, chairman of the committee, urged that the Council ought first to try to coördinate existing organisations.

The Rev. Dr. SCOTT LIDGETT said the Council had all the material for preparing a scheme itself, and in such a scheme the Asylums Board service could be coördinated.

Mr. W. H. ECROYD, a member of the Asylums Board, said that if the Council handed over this work to the Board the scheme to be produced would be an absolutely new service, and that if the Asylums Board had been given power by the legislature to provide an ambulance service it would never have shirked the responsibility and asked another body to carry out the work. On being put to the vote the amendment was lost by 36 votes to 17, and on a division by 66 votes to 44.

Mr. R. C. NORMAN, chairman of the Finance Committee, said that if the Asylums Board would have to promote an entirely new scheme there would be no point in their undertaking the duty in preference to the County Council. The recommendation of the committee was ultimately approved.

ROYAL COMMISSION OF VENEREAL DISEASES.

AT the third meeting of the Royal Commission on Venereal Diseases, held on Nov. 13th, Dr. R. W. Johnstone, medical inspector of the Local Government Board, gave evidence which followed generally the lines of the report on venereal diseases written by him and issued by the Local Government Board in August last.[2] He found much difficulty in arriving at a conclusion on the question of the prevalence of the diseases in the population. The figures given by the Registrar-General could not be relied upon for information of the number of deaths from venereal disease, and this was inevitable owing to the reluctance of medical practitioners to certify deaths as due to this cause. Dr. Johnstone was impressed with the fact that the death-rates from a number of diseases known to be caused in many instances by syphilis, instead of showing a decrease, as would be expected if syphilis were diminishing, were stationary or tended to increase. Turning to the figures relating to venereal diseases in the army he agreed that they showed remarkable decreases, but he considered that they are subject to some qualifications, and in any case he was not satisfied that they could be taken as an exact reflection of the state of the civil population. He laid stress on the fact that the men in the army, through the instruction given by their officers, are much better educated with regard to these diseases than is the ordinary civilian. For the purpose of obtaining trustworthy statistics of the prevalence of these diseases he thought that certification of deaths should be confidential, but that this change should be made with regard to all diseases and not only venereal diseases. He was of opinion that information of value might be gained if a special return were obtained from general hospitals. On the question of notification of the diseases, he said that he was opposed to the introduction of any compulsory system at the present time. He understood that there was a possibility of a system accompanied by the names of patients being put in force in one of the Scandinavian countries, but in those countries treatment by quacks did not flourish to the same extent as in England, and he thought that there was not the same danger of notification leading to the concealment of the disease. From the point of view of the public health of the country in relation to venereal diseases the objects of primary importance to be secured were the prompt recognition of the diseases and their early treatment. To this end he advocated that facilities for laboratory diagnosis should be provided, and that the available hospital accommodation, which at the present time was entirely inadequate, should be supplemented. He was not in favour of the erection of additional special hospitals to deal with these diseases, as he was anxious to avoid anything which would tend to have a deterrent effect. He was of opinion that the more the general hospitals could be used the more freely patients would present themselves for treatment. Dr. Johnstone pleaded for an attitude of greater frankness on the part of the public with regard to these diseases; if the public were properly educated in the matter and the necessary facilities for treatment were provided there was now an opportunity of reducing the diseases to very small dimensions.

On Nov. 17th statistical evidence as to the prevalence of venereal diseases in the army was given by Lieutenant-Colonel B. H. Scott, Deputy Assistant Director-General of the Army Medical Department. The figures furnished by Lieutenant-Colonel Scott were for the period from 1888 to 1912, and related to the rejections of recruits on account of venereal disease, the admissions to hospital, the numbers constantly sick, and the numbers invalided from the service from this cause. Under all these heads remarkable reductions were shown. The rejections on recruiting had fallen from 0 63 per cent. of the candidates in 1890 to 0 14 per cent. of those presenting themselves in 1912. The admissions to hospital in the United Kingdom, which stood at 224·5 per 1000 of the forces in 1888, had dropped to 56·5 in 1912. There were corresponding falls in the figures of constantly sick and invalids. In the case of India the reductions had been still more marked. Lieutenant-Colonel Scott showed that certain qualifications have to be borne in mind in comparing the earlier with the later years, but he was satisfied that real progress had been made and that the figures did indicate a large measure of success in dealing with the diseases in the army. He was not prepared to say whether the figures indicated a corresponding improvement in the civil population. He attributed the diminutions in the army figures to the greater abstemiousness and temperance now existing, to the fact that the soldier is nowadays better looked after and under better influence in the regiments; barrack conditions also are now more healthy and comfortable and the soldiers' institutes provide greater amusements and healthy recreation. In addition, there has, of course, been considerable improvement in the methods of treating the diseases. Lieutenant-Colonel Scott remarked on the excellent work of the Royal

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[1] THE LANCET, Nov. 30th, 1912, p. 1531.
[2] THE LANCET, August 23rd, p. 582.

Army Medical Corps and on the probable absence of concealment of disease from the medical officers He laid stress also on the great importance of the personal influence of the regimental officers

ROYAL COLLEGE OF SURGEONS OF ENGLAND

ANNUAL MEETING OF FELLOWS AND MEMBERS

T [illegible] of Fellows and Members [illegible] In the absence of the [illegible] Mr G H **MAKINS** took the chair

The **CHAIRMAN** opened the proceedings by drawing the attention of the meeting to several of the matters dealt with in the annual report which he placed before the meeting He mentioned that the President was absent with the permission of the Council, for the purpose of inaugurating the new College of Surgeons of America He pointed out that the Council had taken action with other medical bodies in regard to the failings of the Insurance Act with the view of providing material for amending the Act when an opportunity should arise The College had recognised that many medical practitioners were under a disability in not being allowed to call themselves Doctor in consequence of a by law of the Royal College of Physicians of London, and the attention of the latter College had been called to this fact The Royal College of Physicians of London having now made an alteration in its by laws those who held the double diploma of the London Colleges would be allowed in future to style themselves Doctor Mr Makins proceeded to show how great a benefit the Royal Colleges had derived from the building of the new examination hall, which had been in use for a year In future the College would gain about a thousand pounds a year from the change The number of the diplomas issued was shown by the report to be about the same as in the preceding year, and the finances of the College were in a satisfactory state

Dr **SIDNEY C LAWRENCE**, the secretary of the Society of the Members of the College then put a number of questions to the Chairman, mainly in connexion with the annual report Amongst other things he asked how many women had obtained the diplomas of the College, and he was informed that ten had obtained the Membership one had gained the Licence in Dental Surgery, and three had passed in Public Health In reply to a further question he was informed that there were in all 1589 Fellows and 17 126 Members of the College Dr Lawrence asked the Council to follow the example of the Royal College of Physicians in addressing its Members by the title of doctor, and the Chairman answered that this could be done if Members should express a desire for it

Sir **VICTOR HORSLEY** drew attention to a statement in the report that a deputation to the Home Office on the scarcity of subjects was there recorded, and he wished to know if there had been any result

The **CHAIRMAN** answered that as yet nothing had resulted but he would not say that no benefit would follow from what had been done It seemed to be difficult for politicians to appreciate the need of sufficient subjects

Mr F W **COLLINGWOOD** was anxious to know whether the committee of the Royal Colleges and of the Apothecaries Hall on the Insurance Act was in possession of the evidence that could be given by medical men in general practice, and he was assured by the Chairman that not only were there four general practitioners on the committee but a number of general practitioners had given evidence before the committee

[illegible] matter was under consideration

Mr J **BRINDLEY JAMES** then moved the first resolution —

> [illegible] of Fellows and Members [illegible] Members to direct repre[illegible] as now constituted only [illegible] o Fellowship and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation

After a reference to the absence for the first time from an annual meeting of the College of Mr Joseph Smith, Mr Brindley James quoted extensively from an article by the late Sir Jonathan Hutchinson on the question of the representation of the Members, in which the moral right of the Members was emphasised

Dr **LAWRENCE** seconded the motion, and insisted that many of the Fellows were in favour of the claims of the Members Every year there was a deepening distrust of the Council

Mr J **VINCENT BELL** said that though he was a Fellow he would support the resolution because of the justice of the Members claims although he dissented absolutely from most of what had been said by the mover and seconder of the resolution

Mr **COLLINGWOOD** laid stress on the moral right of the Members

Sir **VICTOR HORSLEY** moved the adjournment of the debate, for a period of not more than three months, to enable the President to be present for at the last annual meeting he had declined to say why the Members should not have the franchise, and yet a little later he spoke on the subject at the Society of Apothecaries This action was lacking in courtesy When the Members had the reasons of the Council for the refusal of the right of electing members of Council the Members of the College would be in a position to go to the Privy Council

Dr **GEORGE JONES** seconded the adjournment of the meeting

The **CHAIRMAN** declined to put the motion as the reason given for it was inadequate for by the by laws the Vice President was to take the chair at the annual meeting in the absence of the President

Dr J **OLDFIELD** complained that the Council always returned the same answer to the demands of the Members

Dr **LARKIN** pointed out that in the parallel case of the College of Physicians the Licentiates had no voice

Dr **JONES** said that the Council neglected the large constituency of the Members, for at present they were elected only by the small number of Fellows

When the resolution was put to the meeting it was carried *nem con*

Mr **MORTON** then moved the second resolution —

> That this meeting of Fellows and Members requests the Council to include in their next annual report a balance sheet showing fully and without reserve the assets and liabilities of the College on Midsummer day 1913

He examined various items in the accounts as published and asked for information He suggested that the Calendar should be distributed to the Members and he urged that the accounts should give more detailed information

Dr **OLDFIELD** seconded, and he contrasted the amounts received by the College from the Fellows and the Members, and said that he saw no reason why the committee of management should be paid He inquired how many Fellows and how many Members held the examinerships of the College

The **CHAIRMAN** pointed out that nothing had been said about a balance sheet, and indeed it was impossible to draw up a balance sheet as the cost of the museum and library could not be stated

The resolution was put to the meeting and was carried *nem con*

Dr **OLDFIELD** then moved the third resolution —

> That this annual meeting of the Royal College of Surgeons of [illegible]

Dr **LAWRENCE** seconded, and spoke mainly against the Hunterian dinner

Sir **VICTOR HORSLEY** also objected to the dinner, and claimed that the College should not endeavour to imitate a City company

The resolution was carried with one dissentient

The **CHAIRMAN** called upon Dr W G Dickinson to move a further resolution which had been set down but as 30 Fellows and Members were not present the meeting came to an end

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8233 births and 4594 deaths were registered during the week ended Saturday, Nov. 22nd. The annual rate of mortality in these towns, which had been 13·9, 13·3, and 13·8 per 1000 in the three preceding weeks, declined to 13·4 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 13·6 per 1000, which coincided with the rate observed in London during the same period. Among the several towns the death-rate last week ranged from 5·6 in York, 6·7 in Acton, 7·4 in Southend-on-Sea, 7·5 in Derby, and 7·9 in Lincoln, to 18·6 in Liverpool, 18·7 in Merthyr Tydfil, 18·9 in Smethwick, 19·3 in South Shields, and 20·1 in Great Yarmouth.

The 4594 deaths from all causes were 144 fewer than the number in the previous week, and included 361 which were referred to the principal epidemic diseases, against numbers steadily declining from 925 to 380 in the six preceding weeks. Of these 361 deaths, 149 resulted from infantile diarrhœal diseases, 76 from diphtheria, 50 from measles, 33 from *whooping-cough, 32 from scarlet fever, and 21 from enteric* fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·1, against 1·3 and 1·1 per 1000 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily declined from 769 to 187 in the six preceding weeks, further fell to 149 last week; and included 45 in London, 10 in Birmingham, 10 in Liverpool, 10 in Manchester, 5 in West Ham, and 5 in Sheffield. The deaths referred to diphtheria, which had been 51, 46, and 63 in the three preceding weeks, further rose last week to 76, which was the highest number recorded in any week of the current year; of these 76 deaths, 10 occurred in London, 4 in Birmingham, 4 in Manchester, and 3 each in Brighton, Portsmouth, Liverpool, Blackburn, Halifax, Leeds, and Sheffield. The fatal cases of measles, which had been 49, 30, and 43 in the three preceding weeks, further rose to 50 last week, and included 5 in Sheffield, 4 in London, 4 in Middlesbrough, and 3 each in Stoke-on-Trent, Stockport, Liverpool, Burnley, and Bradford. The deaths attributed to whooping-cough, which had been 45, 46, and 35 in the three preceding weeks, further declined to 33 last week, of which number 8 were recorded in Birmingham, 8 in Liverpool, 5 in London, 3 in Manchester, and 2 in Gateshead. The deaths referred to scarlet fever, which had increased from 16 to 36 in the five preceding weeks, fell to 32 last week, and included 6 in Sheffield, 3 in London, 3 in Liverpool, and 2 each in Portsmouth, Birmingham, and Stockton-on-Tees. The fatal cases of enteric fever, which had been 18, 18, and 16 in the three preceding weeks, rose to 21 last week; 3 deaths were registered in Manchester, and 2 each in London, Birmingham, and Liverpool.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily risen from 2112 to 3896 in the eleven preceding weeks, had further increased to 3980 on Saturday last; 558 new cases were admitted during the week, against 534, 619, and 597 in the three preceding weeks. These hospitals also contained on Saturday last 1237 cases of diphtheria, 162 of whooping-cough, 75 of enteric fever, and 66 of measles, but not one of small-pox. The 1169 deaths from all causes in London were 10 in excess of the number in the previous week, and corresponded to an annual death-rate of 13·5 per 1000. The deaths referred to diseases of the respiratory system, which had been 207, 205, and 206 in the three preceding weeks, rose to 214 last week, but were 69 below the number recorded in the corresponding week of last year.

Of the 4594 deaths from all causes in the 96 towns, 163 were attributed to different forms of violence, and 362 were the subject of coroners' inquests. The causes of 44, or 1·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, and in 74 other smaller towns. Of the 44 uncertified causes of death, 11 were recorded in Birmingham, 11 in Liverpool, 3 in Stoke-on-Trent, 3 in Southport, and 2 each in London, West Bromwich, St. Helens, and South Shields.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1016 births and 685 deaths were registered during the week ended Saturday, Nov. 22nd. The annual rate of mortality in these towns, which had been 14·7, 14·0, and 16·2 per 1000 in the three preceding weeks, declined to 15·8 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 14·7, against 13·6 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rate last week ranged from 4·5 in Kilmarnock, 6·8 in Hamilton, and 7·3 in Falkirk, to 18·1 in Greenock, 21·4 in Leith, and 21·6 in Coatbridge.

The 685 deaths from all causes were 16 fewer than the number in the previous week, and included 68 which were referred to the principal epidemic diseases, against 55 and 84 in the two preceding weeks. Of these 68 deaths, 33 resulted from measles, 14 from infantile diarrhœal diseases, 10 from diphtheria, 6 from scarlet fever, and 5 from whooping-cough, but not one from enteric fever or from small-pox. These 68 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·6, against 1·1 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 17, 11, and 36 in the three preceding weeks, fell to 33 last week; of this number 22 were registered in Glasgow, 2 in Edinburgh, 2 in Greenock, and 2 in Coatbridge. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 34, 19, and 21 in the three preceding weeks, fell to 14 last week, and comprised 12 in Glasgow and 2 in Dundee. The fatal cases of diphtheria, which had been 11, 11, and 10 in the three preceding weeks, were again 10 last week, and comprised 6 in Glasgow, 3 in Aberdeen, and 1 in Ayr. The deaths attributed to scarlet fever, which had been 14, 10, and 9 in the three preceding weeks, further declined to 6 last week, of which 4 were registered in Glasgow. The 5 fatal cases of whooping-cough, which were all recorded in Glasgow, were slightly in excess of the average in the earlier weeks of the quarter.

The deaths referred to diseases of the respiratory system, which had been 99, 84, and 97 in the three preceding weeks, further rose to 119 in the week under notice; 30 deaths resulted from various forms of violence, against 29 and 24 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of this year, 520 births and 378 deaths were registered during the week ended Saturday, Nov. 22nd. The annual rate of mortality in these towns, which had been 17·2, 17·6, and 18·8 per 1000 in the three preceding weeks, declined to 16·4 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these Irish towns averaged 17·4 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·6, while in the 16 Scotch towns it was equal to 14·7 per 1000. The annual death-rate last week was equal to 18·1 in Dublin (against 13·5 in London and 17·5 in Glasgow), 16·6 in Belfast, 10·2 in Cork, 12·7 in Londonderry, 16·2 in Limerick, and 20·9 in Waterford, while in the 21 remaining smaller towns the mean death-rate did not exceed 15·4 per 1000.

The 378 deaths from all causes were 54 fewer than the number in the previous week, and included 38 which were referred to the principal epidemic diseases, against 34 and 41 in the two preceding weeks. Of these 38 deaths 18 resulted from infantile diarrhœal diseases, 12 from scarlet fever, 3 from whooping-cough, 2 from enteric fever, 2 from measles, and 1 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·7 per 1000; in the 96 large English towns the corresponding rate did not exceed 1·1, while in the 16 Scotch towns it reached 1·6 per 1000. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily declined from 111 to 15 in the ten preceding weeks, rose to 18 last week, and included 9 in Dublin and 6 in Belfast. The deaths referred to scarlet fever, which had been 5, 8, and 7 in the three preceding weeks, rose to 12 last week, of which 9 were registered in Belfast. The 3 fatal cases of whooping-cough, comprising 2 in Belfast and 1 in Lisburn, were slightly below the average in the earlier weeks of the quarter. The 2 deaths referred to enteric fever occurred in Belfast and Ballymena respectively; those to measles in Belfast and Londonderry, and the fatal case of diphtheria in Dublin.

The deaths referred to diseases of the respiratory system, which had increased from 48 to 73 in the five preceding weeks, declined to 68 in the week under notice. Of the 378 deaths from all causes, 117, or 31 per cent., occurred in public institutions, and 16 resulted from various forms of violence. The causes of 12, or 3·2 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death did not exceed 1·0 per cent.

VITAL STATISTICS OF LONDON DURING OCTOBER, 1913.

IN the accompanying table will be found summarised complete statistics relating to sickness and *mortality in the City* of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING OCTOBER, 1913.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1913.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,518,191	—	2900	956	—	113	1	25	498	7	26	4526	10·4	—	19	13	48	36	16	667	799	1·8	5957	13·7
West Districts.																								
Paddington	142,210	—	87	42	—	1	—	3	13	—	1	147	10·8	—	—	—	—	—	1	15	16	1·2	160	11·6
Kensington	171,284	—	88	15	—	7	—	—	10	—	1	121	7·4	—	—	—	1	—	—	15	16	1·0	203	12·3
Hammersmith	123,745	—	70	19	—	4	—	1	14	—	—	108	9·1	—	—	—	2	1	—	15	18	1·5	161	12·6
Fulham	157,117	—	116	45	—	7	—	1	5	—	—	174	11·6	—	1	—	3	—	4	24	32	2·1	201	13·3
Chelsea	64,598	—	31	12	—	1	—	1	4	—	1	50	8·1	—	—	—	—	—	—	4	4	0·6	99	15·2
City of Westminster	154,810	—	50	21	—	5	—	—	6	—	2	84	5·7	—	—	—	—	—	—	7	7	0·5	146	10·3
North Districts.																								
St. Marylebone	114,532	—	71	16	—	3	—	1	10	—	1	102	9·3	—	—	3	—	1	1	8	13	1·2	138	12·8
Hampstead	86,346	—	30	18	—	3	—	—	4	—	1	56	6·8	—	—	—	—	2	—	4	6	0·7	87	11·1
St. Pancras	214,330	—	69	54	—	8	—	—	40	2	—	173	8·4	—	1	—	—	1	2	21	25	1·2	292	14·2
Islington	325,585	—	246	66	—	7	—	1	33	—	5	358	11·5	—	—	1	4	2	—	44	51	1·6	430	13·5
Stoke Newington	50,518	—	24	8	—	3	—	1	6	—	—	42	8·7	—	—	—	1	—	1	5	7	1·4	62	12·2
Hackney	223,353	—	165	57	—	10	—	1	23	1	1	258	12·0	—	—	1	1	1	1	42	46	2·1	284	13·4
Central Districts.																								
Holborn	46,949	—	30	3	—	—	—	1	5	—	1	40	8·9	—	—	—	—	—	—	2	2	0·4	62	13·8
Finsbury	84,679	—	42	11	—	2	—	—	19	—	—	74	9·1	—	—	—	1	6	—	16	23	2·8	138	16·8
City of London	17,916	—	5	1	—	—	—	—	1	—	—	7	4·1	—	—	—	—	1	—	1	2	1·2	29	17·6
East Districts.																								
Shoreditch	109,654	—	92	20	—	1	—	1	20	1	1	136	12·9	—	1	—	3	4	—	54	62	5·9	224	22·0
Bethnal Green	127,824	—	99	28	—	2	—	2	30	—	1	162	13·2	—	1	—	2	3	—	33	39	3·2	187	15·9
Stepney	275,300	—	137	56	—	5	—	1	49	—	2	250	9·5	—	2	1	2	3	1	59	68	2·6	384	15·1
Poplar	160,913	—	126	51	—	7	—	2	16	1	—	203	13·2	—	1	1	4	2	1	27	36	2·3	242	15·5
South Districts.																								
Southwark	188,487	—	174	29	—	6	—	—	32	—	—	241	13·3	—	1	2	4	3	—	45	55	3·0	324	18·0
Bermondsey	124,739	—	125	30	—	1	—	2	20	—	—	178	14·9	—	1	—	2	—	—	32	35	2·9	207	17·3
Lambeth	297,139	—	217	41	—	6	1	1	29	1	1	297	10·4	—	1	1	4	1	—	40	47	1·6	423	14·5
Battersea	167,464	—	87	59	—	2	—	1	13	—	1	163	10·2	—	—	—	2	1	2	24	29	1·8	194	12·2
Wandsworth	330,395	—	153	51	—	9	—	2	8	—	4	227	7·2	—	1	—	1	1	—	23	26	0·8	279	8·8
Camberwell	261,805	—	191	56	—	2	—	1	29	1	1	281	11·2	—	3	2	1	2	1	46	55	2·2	375	14·7
Deptford	109,260	—	98	42	—	3	—	—	30	—	—	173	16·5	—	5	—	1	1	—	30	37	3·5	171	16·1
Greenwich	96,015	—	62	33	—	1	—	—	9	—	—	105	11·4	—	—	1	1	—	—	17	19	2·1	139	14·9
Lewisham...	168,822	—	96	39	—	4	—	—	14	—	1	154	9·5	—	—	—	6	—	1	9	16	1·0	166	10·1
Woolwich...	122,382	—	119	33	—	1	—	1	5	—	—	159	13·5	—	—	—	2	—	—	5	7	0·6	160	13·9
Port of London	—	—	—	—	—	2	—	—	1	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 10·4 per 1000 of the population, estimated at 4,518,191 persons in the middle of the year; in the three preceding months the rates were 6·6, 5·4, and 7·7 per 1000 respectively. The lowest rates last month were recorded in Kensington, the City of Westminster, Hampstead, the City of London, and Wandsworth; and the highest rates in Shoreditch, Bethnal Green, Poplar, Southwark, Bermondsey, Deptford, and Woolwich. The prevalence of scarlet fever showed a marked increase over that recorded in any previous month of this year; this disease was proportionally most prevalent in Shoreditch, Bethnal Green, Poplar, Southwark, Bermondsey, Deptford, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month was 3517, against 2093 and 2552 at the end of the two preceding months; the weekly admissions averaged 512, against 258 and 402 in the two preceding months. Diphtheria also was much more prevalent than in other recent months; the l prevalence of this disease was recorded lham, Poplar, Battersea, Deptford, and were 1190 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 798 and 909 at the end of the two preceding months; the weekly admissions averaged 184, against 99 and 147 in the two preceding months. The prevalence of enteric fever showed a slight increase over that in the previous month; this disease was proportionally most prevalent last month in Kensington, Fulham, Stoke Newington, Hackney, and Poplar. The Metropolitan Asylums Hospitals contained 77 enteric fever patients at the end of last month, against 37 and 56 at the end of the two preceding months; the weekly admissions averaged 12, against 6 and 11 in the two preceding months. Erysipelas was proportionally most prevalent in St. Pancras, Fulham, Shoreditch, Bethnal Green, Stepney, Southwark, Bermondsey, and Deptford. The 25 cases of puerperal fever notified during the month included 3 in Paddington, and 2 each in Bethnal Green, Poplar, Bermondsey, and Wandsworth. The 7 cases of cerebro-spinal meningitis included 2 in St. Pancras, and the 26 cases of poliomyelitis included 5 in Islington, 4 in Wandsworth, 2 in the City of Westminster, and 2 in Stepney.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the several boroughs. During the five weeks ending Nov. 1st the deaths of 5957 London residents were registered, equal to an annual rate of 13·7 per 1000; in the three preceding months the rates had been 10·6, 11·8, and 13·3 per 1000 respectively. The death-rates last month ranged from 10·1 in Lewisham, 10·3 in the City of Westminster, 11·1 in Hampstead, 11·6 in Paddington, 12·2 in Stoke Newington and in Battersea, and 12·3 in Kensington, to 15·9 in Bethnal Green, 16·1 in Deptford, 16·8 in Finsbury, 17·3 in Bermondsey, 17·6 in the City of London, 18·0 in Southwark, and 22·0 in Shoreditch. The 5957 deaths from all causes included 799 which were referred to the principal infectious diseases; of these, 19 resulted from measles, 13 from scarlet fever, 4 from diphtheria, 36 from whooping-cough, 16 from enter fever, and 667 from diarrhœa and enteritis among childr under two years of age. The lowest death-rates from the diseases were recorded last month in Chelsea, the Cit Westminster, Hampstead, Holborn, Wandsworth, an wich; and the highest Beth an ...k, ...s ...e; ...in ...ley, ...ever ...and ...rsea. ...lren ...t in ...pney, ...on, it ...n last ...luding

in The under Hackney, Southwark, E may be stated t month from the diarrhœa, was 49·4 per ce

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of His late Majesty's Order in Council of August 11th, 1903, Surgeon John Parton Berry has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated Nov. 20th, 1913).

The following appointment has been notified:—Staff-Surgeon: M. Cameron to the *President*, additional, for Deptford Yard, temporary.

ROYAL ARMY MEDICAL CORPS.

Major Frederick J. W. Porter, D.S.O., retires on retired pay (dated Nov. 22nd, 1913).

The undermentioned Lieutenants are confirmed in their rank:—Robert G. Shaw, Alexander L. Urquhart, and Avenell F. C. Martyn.

Surgeon-General T. M. Corker has been appointed Deputy Director of Medical Services to the Ninth (Secunderabad) Division. Lieutenant-Colonel N. Manders has been placed under orders to embark for a tour of service in Egypt. Lieutenant-Colonel C. W. R. Healey has been selected for appointment as Medical Inspector of Recruits to the London area. Lieutenant-Colonel A. T. J. Lilly has been selected for appointment as Senior Medical Officer at Colaba, Bombay. Lieutenant-Colonel M. O'D. Braddell has taken up duty in *the Cork District. Lieutenant-Colonel C. H. Hale, D.S.O.*, has been granted leave of absence home from Burma for six months. Lieutenant-Colonel G. A. T. Bray has been placed under orders for a tour of service in India, and will be appointed to the Meerut Division. Lieutenant-Colonel C. A. Young has taken up duty as Deputy Assistant Director of Medical Services to the Welsh Division. Lieutenant-Colonel S. C. Philson has been appointed to hold charge of the Military Hospital at Bareilly Cantonment.

Major F. J. Brakenridge has been selected for appointment as Instructor in Royal Army Medical Corps duties to the Oxford University Contingent of the Officers' Training Corps. Major N. J. C. Rutherford has taken up duty as Specialist Sanitary Officer to the Cork District. Major J. Dorgan has left the Cork District for a tour of service at the Military Hospital, Hong-Kong. Major J. Baillie has taken up duty at the Military Hospital, Colchester. Major W. Nece Power has been appointed to the Military Hospital at noticeham for duty. Major H. A. Davidson has taker the m at the Military Hospital, Singapore. Major W aged 17·4 pe es has embarked for a tour of duty in the responding rate tectorate, West Africa. Major R. L. Argles towns it was equal for a tour of service in India. Major M last week was equal appointed to the Military Hospit London and 17·5 in Glasg . Major A. W. A. Irwin has beer 12·7 in Londonderry, 16·2 Hospital at Cork. Major F. terford, while in the 21 remainintive surgery to the Mhow Death-rate did not exceed 15·4 per 10 India, has been selected f The 378 deaths from all causes Lieutenant-Colonel in number in the previous week, and N. Thompson, D.S.O., referred to the principal epidemic dise in the two preceding weeks. Of these inted to the Peshawar from infantile diarrhœal diseases, 12 dia for duty. Captain 3 from whooping-cough, 2 from ente Eastern Command. measles, and 1 from diphtheria, but nc ansferred from the pox. The mean annual death-rate fr Captain W. McD. last week was equal to 1·7 per 1000; in t ervice in the Sierra towns the corresponding rate did not ex Bowle has been the 16 Scotch towns it reached 1·6 per ansport s.s. *Rewa*, of infants (under 2 years of age) attributed Captain E. M. enteritis, which had steadily declined f with the Lahore in the ten preceding weeks, rose to 18 Captain F. M. M. included 9 in Dublin and 6 in Belfast. The d ast District to to scarlet fever, which had been 5, 8, and 7 in t W. F. H. ceding weeks, rose to 12 last week, of which 9 we e in Malta. in Belfast. The 3 fatal cases of whooping-cough, p duty as 2 in Belfast and 1 in Lisburn, were slightly below Victoria Hos- in the earlier weeks of the quarter. The 2 death Newcastle. to enteric fever occurred in Belfast and Ballyme djutant of tively; those to measles in Belfast and Londonde uction at the fatal case of diphtheria in Dublin. Captain

The deaths referred to diseases of the respiratory with the which had increased from 48 to 73 in the five preceding Captain declined to 68 in the week under notice. Of Hospital deaths from all causes, 117, or 31 per cent., occurred in ke has been appointed Specialist in Prevention of Disease and placed in charge of the Bacteriological Research Laboratory at Brigade Headquarters, Darjeeling. Captain A. T. Frost, Specialist in Dermatology and Venereal Diseases, has taken up duty in India. Captain G. A. D. Harvey has been selected for appointment as Specialist in Physical Training at the Royal Army Medical College. Captain T. S. Eves has joined at Lucknow. Captain A. C. H. Gray has been appointed for duty with the Secunderabad Division of the Southern Army in India. Captain J. St. A. Maughan has been transferred from the Royal Army *Medical Corps Training Camp* at Tidworth Park, Salisbury Plain, to the Royal Victoria Hospital at Netley. Captain J. A. Turnbull has taken up duty in India on transfer from the Military Hospital at Tidworth, Salisbury Plain. Captain A. H. Heslop has taken up duty at the Military Hospital, Rawal Pindi Cantonment. Captain W. R. Galwey has taken up duty as Deputy Assistant Director of Medical Services (Sanitary) at Wellington. Captain T. C. C. Leslie has been appointed for duty with the Lucknow Division of the Northern Army in India. Captain J. E. Hoar has been transferred from the Military Hospital at Chatham to Sheerness. Captain G. W. Heron has joined the Public Health Department in Egypt. Captain H. R. Edwards has taken up duty at Pretoria. Captain R. G. Meredith has embarked for a tour of service in Ceylon. Captain R. E. Humfrey has been transferred from the Military Hospital at Queenstown to Kilwor[illegible] has taken up duty at the Military [illegible] J. H. Gurley has joined the Roya[illegible]

Lieute[illegible] M. Elliott, Lieutenant H. J. Wells, and Lieutenant W. W. Pratt have been placed under orders to embark for a tour of service with the Northern Army in India. Lieutenant A. L. Urquhart has been appointed to the P[illegible] the Royal Army Medical College. [illegible] has been transferred from the [illegible] P[illegible]mouth to Crownhill for duty.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel S. H. Burnett has been selected for appointment as First District Physician on the staff of St. George's Hospital at Bombay. Lieutenant-Colonel W. R. Clarke has joined at Jullundur as Civil Surgeon. The services of Lieutenant-Colonel H. W. Pilgrim have been placed at the disposal of the Commander-in-Chief by the Home Department of the Government of India. Lieutenant-Colonel D. M. Davidson has joined at Lahore.

Major H. R. Nutt has been selected for appointment as Civil Surgeon at Muttra. Major W. D. A. Keys has been g[illegible] Hunter has been granted an extension of leave of absence [illegible] Examiners' Department and has been attached to the Chemical Examiners' Laboratory at Madras. The services of Captain H. R. Dutton have been placed at the disposal of the Government of Bengal Presidency. Captain B. E. M. Newland has joined at Etawah. Captain L. Reynolds has been granted an extension of leave of absence home from India. Captain J. F. Boyd has been appointed to the United [illegible] connexion with plague pre[illegible] matters has been appointed [illegible] to the Central Provinces. [illegible]

TERRITORIAL FORCE.

1st Lowland Brigade, Royal Field Artillery.—Surgeon-Captain (Honorary Lieutenant in the Army) William M. Taylor to be Surgeon-Major (dated Sept. 13th, 1913).

Royal Army Medical Corps.

Attached to Units other than Medical Units.—Ernest White to be Lieutenant (dated Oct. 14th, 1913).

THE HEALTH OF THE NAVY.

[illegible] Department of the Nav[illegible] 1913, states that the re[illegible] under review show a continuous improvement in the general health of the Fleet as compared with the preceding five years. The total force in 1912 was 119,540, and the total number of cases of disease and injury entered on the sick list was 76,815, giving a rat[illegible] [illegible] as compared with the [illegible]

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1498.)

XXVIII.—BIRMINGHAM: FAILURE AND SUCCESS IN WORKING THE ACT.

MOST Insurance Committees profess to be well satisfied with themselves and with the work which they have done, and Birmingham can show cause for this spirit. It boasts of a large panel to the number of 260. As there are now 308,000 insured persons, this gives an average list of 1180 persons for each medical man on the panel. Further, it is maintained that all the insurance areas are well served, and accordingly there should be a fairly even distribution of the patients. This, however, is not the case, as no less than 36 practitioners have more than 2000 insured persons on their lists, and there is one list which exceeds 4000. Of course, there are exceptional reasons for such figures. Thus there are large families all on the same list, and such families are grouped together. Thousands of persons living in a very restricted area are much easier to attend, and so an apparently impossible amount of work may be achieved more or less. Of course, in such circumstances cases cannot have sufficient time allotted to them, but formal complaints in this direction have rarely been received from the patients. It must be remarked that many insured patients as yet do not know how to complain or realise that they have a right to do so. Nevertheless, several complaints have reached the Insurance Committee and have been transmitted to the Medical Subcommittee, but only in two cases was it necessary to call upon the practitioners to answer the charges.

The medical men on the panel, I was assured, work harmoniously together. By mutual arrangement they overcome difficulties, especially that of overlapping into each other's areas. Then there is one difficulty which the Insurance Committee have solved, and in so doing have set an example that might with advantage be widely followed. This relates to what may be termed "the emergency prescription." A patient is seen when the chemists' shops are closed—in the night, for instance. The quickest way to deal with the situation would be for the medical man himself to dispense the medicine; but if he does so he has no right to make any charge—the medicine he gives must be a free gift. Now the Birmingham Insurance Committee have decided to allow the panel practitioners 1*s.* extra per annum for each insured person. With 1000 persons on a panel list the £50 a year so received may be considered ample to pay for dispensing drugs on occasions when the chemists' shops are shut or when they cannot be reached in time to meet an emergency.

At Newcastle-on-Tyne something similar in spirit has been done. There the Insurance Committee have sent to all the practitioners on the panel an emergency packet of lint, bandages, and other *necessaries for first aid.* Unless some such arrangement is made, when a patient comes with a cut finger the medical man must either make him a present of a bandage or send him with the undressed wound to fetch the required dressing from a panel chemist. Such a contingency is now

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[1] To be purchased from Wyman and Sons, Limited, Fetter lane, E.C. Price 10½*d.*

avoided at Newcastle-on-Tyne by the provision of dressings, and at Birmingham by the allowance of 1s. a year. I mention the matter in detail because although the point is a small one, what has happened shows that a determination on the part of the public to smooth away difficulties exists and is growing.

The Attempt to Resist the Act.

But in spite of the roseate view taken by the Insurance Committee, a strong stand against the Act was made at Birmingham, the majority of the profession opposing it to the very end; those who held an official position were specially antagonistic. Resolutions were adopted at numerous meetings to the effect that the members of the profession had better refrain from having anything to do with the Act; finally, however, the proposed resistance collapsed. When the contract form was sent out and it became clear that the practitioners would be refusing to work for the Government, they took a serious view of the consequences. No resolution was passed allowing them to go on the panel or absolving them from any pledges, but they nevertheless nearly all yielded to the pressure. The British Medical Association, which organised the resistance, held many meetings to which all practitioners were invited, whether they belonged to the Association or not, yet but few attended outside the membership of the Association.

A General Practitioners' Union was formed at Birmingham which divided up the city into wards, each ward having a chairman and a small committee, with a general secretary to unite all the wards. Ward meetings were held to test the local feeling, and then it was ascertained that in every district there were practitioners who were determined to go on the panel whatever happened. It really seems as if small local meetings give a truer insight into the feelings of the whole profession than does a large central meeting. The latter is apt to be dominated by partisans of one cause or another and may not represent the whole community. It was these small ward meetings that practically decided what was to be done, for it was shown that many practitioners were entirely dependent on club practice, having no private patients at all. On the clubs giving up the medical aid branch of their work the panel was the only opening remaining for these practitioners. Then other practitioners, though in a much more independent position, followed suit, for a partial resistance would have been worse than useless.

In all Birmingham, of the available general practitioners there are probably not more than 20 who have not joined the panel.

The Degradation of Medical Practice.

I have mentioned that one practitioner in Birmingham has more than 4000 panel patients on his list, but he has a partner or assistant to help him. Another medical man, however, has nearly as many patients on his list, but has no one to help him, so he is obliged to work night and day. These are the things which make one see that the working of the Act has need of amendment.

Speaking about the over-large panel list with one of the leading practitioners, he maintained that the medical attendance given to the poor and the working classes is not so good as it was in the old club days, nor is the work any more pleasant or scientific. The general custom then was to go to the club doctor for minor ailments, and to go to the hospital or to some institution if the illness was serious. The medical officer of a club who was paid 4s. a year only attended a small portion of the sick members. Now he obtains, under the Insurance Act, 7s. a year, but he has to attend to every person on his list without the same chances of delegation which he used to possess. The payment is larger, but much more work has to be done for it. Many patients whom a club doctor used to send to the hospital are now sent back to him. The result has been in some cases that instead of a wound being dressed by the practitioner, the dressing has been given to the patient, who dresses his own wound unskilfully. Insured patients sometimes present themselves at the dispensaries because they are dissatisfied with their panel practitioner, and this sort of thing is bound to occur if panel practice is allowed to fall to a low level. If these complaints are heard to-day, what will happen in the event of an epidemic? That is the question that is asked anxiously in all places where the medical administration is under criticism.

There is evidence to show that a good many insured patients are dissatisfied, the result being that they will not call on their panel practitioner, though they are entitled to receive his advice without payment; instead, they seek other advice, for which they pay the ordinary fee. A panel medical man who was speaking to me about this said that he had just seen a patient who had first gone to his panel practitioner, who sometimes receives nearly 100 patients in one evening. What could be expected? The patient wanted to have his chest examined, and of course there was not the time for this to be done. Thereupon he came to my informant and paid a full fee to be properly examined.

In another case, after having given a certificate for several weeks running, and as the patient seemed quite well, my informant refused to sign any more. The patient then went to the Insurance Committee and asked for a transfer form. Though it was not the proper time for this, and though the practitioner had informed the clerk of the committee that he had refused a certificate, the request of the applicant was allowed. He then obtained from the second panel practitioner the certificate which had been refused. The second practitioner ought, if possible, and if the circumstances were known to him, to have supported the first medical man and refused the certificate. As it is it may be argued that a refusal to give a certificate will not stop malingering but will result in the loss of a patient. In order to check malingering the profession must stand together.

The Approved Institutes.

Birmingham is fortunate in having only two approved institutes of any importance, and even these, for so populous a centre, are very small. The largest is known as the Dale End Dispensary, and it is in reality an amalgamation of Friendly Societies. Among the members there are about 2000 insured persons, and those whom I was able to question laughed when I inquired if the whole-time medical officer received the full 7s. for each insured member. There are also the Hockley Provident Dispensary and a medical aid institution connected with the Cornwall Works, where the workpeople and their families are enrolled. Two medical men are employed and receive regular salaries. The competition of these institutions against the panel practitioners and chemists is, of course, recognised as utterly wrong in principle, but is so slightly felt that it does not constitute here an urgent and acute grievance, as is the case at Derby and Chesterfield.

The question of women workers is likewise not quite as prominent as at Nottingham and Derby, but it tells very decidedly on the Birmingham practitioner. Thus a prominent practitioner related to me that his list of insured persons contained an equal number of men and women, yet out of 125 patients calling at his surgery 75 were women. He found also that of those in receipt of sick pay there were two women for every man, while in the club days before the Act there were hardly any women insured.

Sick Pay Delays.

A good deal of trouble had occurred in regard to sick pay. The wording of the Act complicated matters. Is an insured person to receive sick pay because he is unable to work or because he is unable to follow his usual occupation? At Birmingham the practice is that a patient should be unable to do any work whatsoever. Thus a woman worker in a factory, who is too ill and weak to do work requiring much muscular effort, will have her sick allowance stopped if she is seen laying a tablecloth. It is urged that in the old days a sick person in receipt of benefits from his club was allowed to put coal on the fire without losing his sick pay.

The commercial insurance companies, attending to a large part of the insurance work under the Act, are far too ready to raise legal quibbles. They suspend payments to make inquiries, so that articles have to be pawned to provide food—precisely the sort of evil the Act was specially devised to prevent. Thus, a case was related to me of a youth, aged 18, who was accidentally shot in the leg during the 5th of November celebrations in 1912, before the Act came into force. A piece of clothing was left in the wound and a running sore ensued, and when the measure came into force he consulted my informant who was his panel practitioner. As the certificate given stated that the patient had a wound in the leg the insurance company refused sick allowance on the ground that a wound came under the Employers' Liability Act. But the accident happened when he was at play. Then the company replied that the patient should take action against the father of the boy who accidentally let off the gun. Considering that this all happened among people far too poor to take legal action the absurdity of the position was evident. Ultimately the patient obtained his sick pay, but he had to wait many weeks, to say nothing of long and vexatious negotiations. Another patient could not get sick pay because the company through which he was insured maintained that a cold was not an illness, however severe.

Both the Insurance Companies and the Friendly Societies are now employing, in order to detect malingering, a great number of visitors, especially women. The difficulty is that these will not content themselves with visiting, but insist on giving advice. Thus, and in spite of their incompetence, they constantly interfere with the medical treatment. As an example, I was told of a case in which a young girl had had three attacks of rheumatic fever. The patient had been several months in bed, but at last she was well enough to get up and sit at the door. Thereupon the sick visitor told her she should take exercise, as nothing was more wholesome than exercise. But the patient's heart was in a precarious condition, and after a ten minutes' walk she was very much worse. Some measure is needed to prevent visitors exceeding their authority and dangerously interfering with medical treatment.

The Good Working of the Insurance and Medical Committees.

From the official point of view the Act has been working better in Birmingham than in most places. The Government, it is urged, may consider themselves very fortunate that the insurance scheme did not start with an epidemic. Had a bad epidemic occurred last winter it might have imperilled the Act, and even this winter it would cause a terrible strain on the provisions of the measure. On the other hand, it is argued that, though there was no epidemic last winter, there was a great deal of sickness, and at Birmingham no less than 232,000 insured persons were placed on the lists of the practitioners within the first three months.

There can be no doubt that the Insurance Committee have been very considerate in regard to the medical staff. They have not harassed them by sending numerous instructions, and when difficulties arose they endeavoured to meet the case to the best of their ability. The Insurance Committee have always ascertained the medical men's opinions, and they have generally accepted the advice given by the Medical Committee. This latter committee consists of 23 general practitioners and seven consultants. Of the 23 general practitioners 21 are on the panel, so that the Medical Committee is a fairly representative body, and it exercises a well-merited influence.

(To be continued.)

PLAGUE IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE TO THE CONSTANTINOPLE BOARD OF HEALTH.)

Plague in Jeddah.

THE outbreak of plague in Jeddah, referred to in my last letter on this subject,[1] appeared to have come to an end early in May, and the port was declared "clean" on May 13th. But on the 16th of that month a further case was discovered after the death of the patient, and on the 28th a second one was seen. None were discovered later. The outbreak began on March 10th, and had consequently lasted two and a half months, during which 31 cases with 27 deaths were registered.

Plague in Aden.

The following figures are in continuation of those furnished in the letter above referred to:—

Week ending	May	10th	... ...	9 cases,	9 deaths.
,, ,,	,,	17th	... ...	14 ,,	11 ,,
,, ,,	,,	24th	... ...	14 ,,	10 ,,
,, ,,	,,	31st	... ...	10 ,,	10 ,,
,, ,,	June	7th	... ...	1 case,	2 ,,
,, ,,	,,	14th	... ...	3 cases,	1 death.

From June 1st to June 25th 8 cases in all, with 5 deaths, are said to have occurred; the last case was isolated on the 22nd. No further cases were reported, and on July 8th the measures imposed in Turkish ports against Aden were suppressed.

Plague in Massowah.

About the middle of May the existence of plague was reported from Massowah, where an unusual mortality among rats had also been observed.

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[1] THE LANCET, June 14th, p. 1697.

Later information showed that the outbreak began on May 4th with 9 cases, and official reports stated that in successive weeks there had been recorded 23 cases, 10 cases, and 1 case respectively. On the other hand, bills of health of ships arriving at Hodeidah from Massowah about this time showed that between May 1st and 26th 51 cases with 31 deaths had occurred in the latter port. All the cases were said to have occurred among natives. No subsequent cases were reported, and on July 8th the measures imposed in Turkish ports against Massowah were suppressed.

Plague at Bushire.

The outbreak of plague in the principal port of the Persian Gulf, which was mentioned in my previous letter, soon came to an end. In the week ending May 17th only 2 new cases with no death were reported, and as no further cases occurred the port was declared plague-free on May 31st.

Plague in Basra.

A single case of plague was seen in Basra, near the head of the Persian Gulf, on May 31st; the patient died on June 3rd. A second case was isolated on July 15th, and died on (apparently) the 21st. No subsequent cases were observed.

Plague in the Interior of Persia.

But little further information has been received here respecting the outbreak of plague in the Khorassan province of Persia, referred to in my previous letter. At the end of May the Russian Legation in Teheran reported the reappearance of the disease at Kariz, in this province. On July 12th the British Consul-General at Meshed telegraphed that no cases had been seen for a month. But in the meantime the disease had appeared in the Ardilan province, in the neighbourhood of Kermanshah, not far from the Turco-Persian frontier. Rumours of the presence of plague in this district were first heard in the spring months, but no exact information has been received as to the date when the outbreak began. During the summer, however, some further details have become available, and it seems that plague was very severely epidemic in several villages during the winter. A report from Teheran states that four villages in the neighbourhood of Hobi Lans lost nearly all their inhabitants from the disease last winter, and that in seven others, where the infection appeared in April, half the population died from the disease. The mortality down to the middle of August for the whole district was put at between 600 and 700. This figure is probably by no means an exaggerated one, for early in June the governor of Kermanshah telegraphed to Teheran that the epidemic was taking on very serious proportions at Harounabad, Loud, and Caravadeh, where 150 deaths had occurred. Through the summer the principal centres of the disease appear to have been Harounabad and Djami-Shouran, but a considerable mortality was also reported from Larzangeneh, Mahi-dasht, Zebyri, and other places. At Gever two pneumonic cases were seen in June, but elsewhere, so far as is known, the disease was of the bubonic type. The outbreak seems to have come to an end about the beginning of September, or possibly the end of August. The last case reported from Djami-Shouran occurred on August 28th.

Plague in Adalia.

A single case of plague recently occurred at Adalia, on the southern coast of Asia Minor. It will be recalled that sporadic cases of the disease—usually limited to one or two—have been seen here almost every summer for several years past. The present case was first seen on August 29th.

Plague in the Lebanon.

A recent telegram from Beirût reports the occurrence of a single case of bubonic plague in the village of Kefershina, in the Lebanon, about two hours' distant from Beirût. The patient was a coal porter working in the docks, and was first seen on Oct. 26th. No light has yet been thrown on the source of infection in this case.

Plague in a Trebizond Prison.

Ten cases of bubonic plague recently occurred in the town prison in Trebizond. The cases were first reported on Sept. 29th; one patient had then died and nine were under treatment. No further cases occurred, and here also the reports throw no light on the origin of the infection. It is, however, categorically stated that after full inquiry all possibility of importation of the disease from elsewhere has been excluded; and it is a remarkable fact that the cases have all occurred in the same part of the same prison as the similar cases seen in the summer of 1906. In the month of August of that year, curiously enough, the same number of cases (ten) were treated. They were reported in some detail in my letters to THE LANCET at that period.[2] On that occasion a considerable mortality among the rats of the prison was observed, but in the present outbreak there appears to have been no exceptional rat mortality. No cases have been seen in the general population.

Plague in the Kirghiz Steppes.

In recent months plague has been showing considerable activity both in human beings and among the marmots in the steppes of southern Russia. Early in June (Old Style) there appears to have been a widespread epizootic of the disease in the steppes of the Astrakhan government, more particularly in districts where human cases of plague had been seen last year. At the same time—between June 3rd and 9th—9 cases of pneumonic plague, all fatal, occurred in the Kirghiz settlement of Solokhin, in the Tsarevo district of the Astrakhan government. The Russian Plague Commission had already started an energetic campaign against the disease. A central laboratory was established in the steppes; floating hospitals, "observation points," and night refuges were organised at Astrakhan and elsewhere; and medical commissions were sent to the governments of Astrakhan, Ekaterinoslav, and the Don territory, and the not inconsiderable sum of 300,000 roubles (about £30,000) was voted for the cost of this campaign. Professor Zabolotny was placed at the head of the organisation, and among other measures an attempt was made to extirpate the marmot population of the affected districts, but the practical difficulties in the way of complete extirpation seem to have been almost insuperable owing to the habits of these animals. On July 13th (all the dates mentioned in this section are according to the Old Style) the governments of Saratof, Samara, and Stavropol were declared "threatened" with plague.

Between July 2nd and August 6th 6 persons in one family died from bubonic plague at Djamantai-Tubek, in the Talof district, and another death occurred about the same time at Asheouzek, 16 versts away. In August 2 deaths occurred at

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[2] THE LANCET, August 26th, p. 525, and Sept. 15th, 1906, p. 746.

Alibek-Kopa, in the Astrakhan government, and a suspected case was seen at Tsaritsyn, on the Volga. Early in September 18 Kirghiz fell ill with pneumonic plague at Tourgen, to the east of Prjevalsk, in the Central Asiatic province of Semiretchinsk. Down to the 22nd of the month 26 cases, all fatal, had been recorded here, and 2 others occurred later.

Two deaths from suspected plague occurred at Takbaskul, in the Talof district of the Astrakhan government, some time in September. A serious outbreak of pneumonic plague has also been recently reported from the village of Novopetrovsk, in the second district of the Don territory, near the railway station of Liapitchevo (35 versts from the borders of the Astrakhan government). The first cases were seen on Sept. 26th (Oct. 9th); down to Oct. 6th (19th) 21 cases with 14 deaths were registered here, and on the 7th (20th) 4 new cases and 5 deaths were recorded.

The above outbreaks have not been without their toll of deaths among the medical staff sent to cope with them. Thus at the end of June Dr. Theodorof died suddenly, apparently of plague, at Astrakhan, where he had been employed on plague measures. At Novopetrovsk assistant Dr. Chertchouk, who had had under his care the first case of pneumonic plague in that village, developed the disease himself on Sept. 28th (Oct. 11th) and died three days later. On Oct. 5th (18th) his wife showed symptoms of the disease and died on the following day; and also on the 5th (18th) a guard on duty at the plague hospital also developed the disease.

Constantinople, Oct. 30th.

A SYSTEMATIC CAMPAIGN AGAINST TUBERCULOSIS IN A GERMAN VILLAGE.

(FROM A CORRESPONDENT.)

THE eradication of tuberculosis occupies a prominent place in the sanitary policy of every civilised country, and for this reason considerable interest attaches to the step taken at the initiative of the director of the Grand Ducal Hessian Insurance Bureau, Privy Councillor Dr. Dietz, which has for its aim the systematic eradication of the dread disease in a village severely visited by this scourge, and at the same time is to serve as an example for other similarly affected parishes.

Heubach: Vital Statistics and Housing Conditions.

Heubach, the village selected for this practical experiment in modern prophylaxis, is situated at an altitude of 670 feet, in a small side valley in the Odenwald, half an hour from the railway line which intersects the forest from Hanau to Eberbach. It has a population of 1072 souls, which has steadily decreased since 1895, owing to the fact that the quarries in the neighbourhood are no longer worked to the same extent as was formerly the case. According to the occupation Census of 1907, 740 of the inhabitants were engaged in the following occupations:—

Agriculture	401	persons.
Quarrymen	240	,,
Dressmaking and millinery	48	,,
Building trade	25	,,
Railway employees	26	,,

The number of births has declined from 53, in 1903 to 25 in 1912; the number of deaths during the same period has fallen from 30 to 14. In 1903 pulmonary tuberculosis was the direct cause of death in 11 cases, giving the enormous ratio of 88·4 per 10,000; and in 1912, of the 14 deaths 2 were attributable to this affection, or a ratio of 17·6 per 10,000, as compared with the average mortality from this cause of 12·9 per 10,000 inhabitants in the Grand Duchy. In the years between 1903 and 1912 the mortality from tuberculosis showed great variations, going as high as 57·5 per 10,000 in 1909, and sinking to 24·6 per 10,000 in 1906.

The village consists of 101 [illegible] 247 separate families; the [illegible] of drinking-water. The [illegible] possible; the houses are damp, in large part owing to being built on a foundation of variegated sandstone, and the space is so restricted that in numerous instances no room is available to place another bed. As regards the available living space it was found that—

1 room	was occupied	by	1 person	in	290	cases.
1 ,,	,, ,,	,,	2 persons	,,	150	,,
1 ,,	,, ,,	,,	3 ,,	,,	71	,,
1 ,,	,, ,,	,,	4 ,,	,,	25	,,
1 ,,	,, ,,	,,	5 ,,	,,	7	,,
1 ,,	,, ,,	,,	6 ,,	,,	11	,,

and in one case 1 room was shared by no less than 11 persons. Of even more interest are the data collected regarding the distribution of sleeping accommodation, which was found to be as follows:—

1 bed	was used	by	1 person	in	437	cases.
1 ,,	,, ,,	,,	2 persons	,,	210	,,
1 ,,	,, ,,	,,	3 ,,	,,	55	,,
1 ,,	,, ,,	,,	4 ,,	,,	10	,,
1 ,,	,, ,,	,,	5 ,,	,,	2	,,

Financial Questions.

The total expenditure of the local sick club amounted in 1912 to £159, of which £31 10*s.* were for medical attendance; the claims made upon the club have been so great that it was found necessary to raise the rate of contributions. In addition, no less than 122 persons are in receipt of disablement benefit, totalling £950 annually. On the other hand, the financial situation of the village is excellent; it possesses forest property bringing in about £1500 yearly. It is also interesting to note that the consumption of beer has steadily decreased of recent years; in 1906 the amount drunk reached to 28,820 gallons, against 18,920 gallons consumed in 1912.

The Inauguration of the Campaign.

The prevailing unhygienic conditions in this village induced Privy Councillor Dr. Dietz to select it for an object lesson in practical sanitation. A conference was attended by the district medical officer of health, the medical adviser to the insurance bureau, the three medical practitioners residing in the neighbourhood of the village and practising there, the director of the tuberculosis sanatorium, the mayor of the village, the local clergy, and the village nurse. A plan of campaign was then decided upon, including improvement of the housing conditions, to fight against the abuse of alcohol, provision of baths and milk for the school children, care of the teeth of the children, disinfection, and special care of the curable as well as incurable cases of tuberculosis. The inhabitants showed a distrust of the steps to be taken, but no resistance was offered. A second nurse was engaged to deal solely with the tuberculosis problem. The district medical officer of health held two lectures on "tuberculosis in general" and on "proper feeding." Placards dealing with tuberculosis were affixed to suitable places in the village and leaflets were widely distributed. All the adult inhabitants underwent medical examination by the doctor of their choice, with radiographic and bacteriological observations where necessary. Among the adult population 159 cases of inactive and 190 cases of active tuberculosis were demonstrated; bacilli were found in 13 instances. The von Pirquet test was applied to 400 children, and of these 141 showed a positive reaction, or 44·2 per cent.; the greatest percentage was found during the ages of 14 to 16 years, which yielded 75 per cent. of positive cases among the total

The Measures in Regard to the Children.

[illegible] measures with the children. [illegible] school house, and a room [illegible] hich to drink the milk, curiously enough an unknown drink to them. At present 150 children are given in the morning a cup of milk and a piece of black bread covered with plant butter, and another cup of milk in the afternoon. This has had quite a good effect by causing the use of black bread and plant butter to be adopted by the inhabitants, to whom both articles were hitherto practically unknown as articles of food. In a few weakly children a nutrient preparation was added to the milk. It was found that the greatest gain in weight took place during the first period, and with one single exception every child increased on an average by 2·75 kilogrammes in 8½ weeks with milk alone, while those who received a nutrient preparation as well exhibited an average gain in weight of 3·15 kilogrammes.

In the morning and afternoon the school children are made to go through a course of breathing exercises under the supervision of the teacher, who was specially instructed for this purpose by the medical director of the tuberculosis sanatorium. Two large baths with douches have been installed in the school house, and all the children who showed a positive von Pirquet reaction are given weekly three saline baths. On two days of the week the baths are at the disposal of the remainder of the inhabitants. In some cases of suspected infection among the children inunctions of tuberculin were performed, and the observations made point to the utility of this procedure.

Other Measures: the Cost of the Scheme.

Great difficulties were encountered in urging upon the inhabitants the necessity of observing strict cleanliness in their dwellings. Special attention was paid to the laundry question. It was decided that white articles should be boiled in a steamer, but woollen and coloured goods, which do not stand boiling, should be soaked in crude lysoform and then washed with water. As the inhabitants objected to send their soiled linen, &c., to be washed in the installation provided, since they did not wish to make it known in whose houses tuberculosis was present, it was decided to provide the necessary steamers, portable washing-machines, &c., and lend them to the inhabitants to do their own washing. In the beginning the washing-machine was fetched by the inhabitants at night time only, but it is hoped that in time they will come to appreciate the value of this treatment of the soiled linen.

A regular disinfection of the dwellings takes place in the event of a death and at removals, and is supervised by the nurses. Spittoons and pocket-spittoons, 100 of each, have been distributed to the villagers, as well as clinical thermometers. In addition 21 beds and 6 invalid lounge-chairs have been provided.

As a further result of the systematic examination of the whole of the inhabitants during the first eight months that the scheme has been in operation, 15 persons were admitted to tuberculosis sanatoriums and 3 placed in homes for invalids; 9 children were sent to children's homes, 4 to saline baths; furthermore, already 11 persons have been granted disablement benefit. Steps are being taken to provide some suitable occupation for those in receipt of disablement benefit, such as the growing of fruit or vegetables.

The total expenditure so far entailed by this scheme amounts to £1013 10*s.* for the first year, £293 10*s.* being initial expenditure, £445 cost of treatment, and £275 cost of food and salaries.

It is as yet too early to draw a definite conclusion as to the value of the above-mentioned measures, but after the short time of only eight months a gratifying effect is already apparent. In the first place, the general health and intelligence of the school children show a considerable improvement, and the inhabitants themselves are beginning to take an interest in the measures introduced for their benefit; they no longer accept their unhappy lot with resignation, but are beginning to appreciate the aim and the value of the steps undertaken to improve their health, and thereby their condition. The further results of this practical experiment will be awaited with interest.

UNIVERSITY OF SHEFFIELD.—Mr. J. H. Dible, M.B., Ch.B. Glasg., has been appointed to the post of junior demonstrator in pathology, vice Dr. M. Douglas, resigned.—The John Hall Gold Medal in Pathology has been awarded to William Barnsley Allen and Gordon Fowler Stones, bracketed equal.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

NEWCASTLE-ON-TYNE.

The Clinical Society, Newcastle-on-Tyne.

THE annual address of this society was delivered by Professor G. R. Murray, of Manchester, on Nov. 21st, in the College of Medicine. The title of the address was "The Clinical Significance of Spontaneous Hæmorrhage." Professor Murray, after referring to the pleasure it gave him to revisit Newcastle and deliver the address of the society, of which he was an honorary member, proceeded to discuss in detail the importance of arriving at a diagnosis in cases of spontaneous, and it might be slight, hæmorrhage. He reminded his audience that slight bleeding might be of more serious import than severe, and that in the former case investigation and treatment were often delayed with disastrous results. He discussed in some detail the causes of hæmorrhage from the various organs and mucous surfaces, the whole lecture proving both interesting and instructive. In the evening the annual dinner of the society was held in the Central Station Hotel, when Professor Murray was the guest of the evening. The President of the society, Dr. D. Wells Patterson, was in the chair, and presided over a large gathering, among whom were the Lord Mayor of Newcastle (Councillor Johnstone Wallace), the Sheriff (Councillor Herbert Shaw), Professor Sir George Hare Philipson, Professor Sir Thomas Oliver, Professor R. A. Bolam, Professor R. P. R. Lyle, Professor S. McDonald, Professor J. Wight Duff, Professor T. Beattie, Professor W. E. Hume, and Dr. N. Maclay and Dr. H. J. Slade (the honorary secretaries of the society). The toast of the evening was proposed by the President, who in the course of his remarks reminded the audience of the association of their guest with Newcastle-on-Tyne, where Professor Murray had laid the foundation of his splendid work in regard to disease of the thyroid. In his reply Professor Murray urged that all young practitioners should do some work during "the golden period of life"—from twenty-five to thirty-five was the best time to lay the foundations of a reputation. After these years it was increasingly difficult to start on any new enterprise in the department of medicine.

University of Durham College of Medicine.

At a meeting of the council of the College of Medicine held on Nov. 12th, under the presidency of Sir G. H. Philipson, the following appointments were made:—Lectureship on diseases of throat, nose, and ear: Dr. S. S. Whillis. Lectureship on diseases of the skin: Professor R. A. Bolam. Lectureship on diseases of children: Dr. O. W. Ogden. Lectureship on surgery: Mr. G. G. Turner. At the meeting it was reported that Dr. T. Outterson Wood, a graduate of the University, had forwarded a cheque for £250 to found a prize in the college to be named the Outterson Wood prize in Psychological Medicine.

Mr. F. H. Booth, M.P., on the Panel Doctors.

Mr. F. H. Booth, M.P., has visited Newcastle with the object of inaugurating a local branch of the "Faculty of Insurance," the object of its existence being to help in training and making efficient the officers of Friendly Societies and Trade Societies and other persons concerned in the administration of the Act. He criticised the medical profession, which he found overpaid. Doctors all over the country, he said, had admitted to him that the actual remuneration they were getting was considerably more than they anticipated. He knew of instances also where doctors invariably sent in a private bill to panel patients and recovered money if they could. Considering the way in which the State had treated the medical profession he thought they had a right to expect a little more loyal service and more consideration to the hardworked members of the Friendly Societies than they were receiving. He admitted that the great majority of doctors were now trying to do their best under the Act, but in some districts, unless they were more considerate, there would be a repetition of the terrible lesson they received at Wisbech. It is interesting to note that a few days later the Grand Master of the Manchester Unity of Oddfellows, Bro. Walter Wright, of Reading, at a dinner of the Seaham District of the Order, said:—

> The enormous amount of consideration which doctors were now showing their patients was becoming a serious menace. The Oddfellows were unwarrantably and treacherously deprived of administration of medical benefit, and the result was that a doctor had to keep himself popular with his patients if he wanted to make a decent living.
>
> The doctor's business had been put practically on a basis of pure commercialism, and he had to be careful not to upset his insured patients, because if a man went to the doctor and said he wanted a rest, and the doctor said there was nothing wrong with him and he had to go back to work, the patient made up his mind to change his doctor and get one a little more sympathetic. The result was that the funds were being seriously depleted.

These two quotations serve to illustrate the reasoning with which it is hoped to mould public opinion on these matters. Both critics agree in complaining of the doctors, one finding the amount of consideration shown by them to be too great, and the other finding it deficient. Mr. Booth is a politician and appears to know nothing about the Wisbech tragedy.

Nov. 25th.

MANCHESTER.

University Court and Progress of the University.

A MEETING of the court of governors of the University was held on Nov. 19th. It appears that the number of students is nearly the same as in the previous year, 1663. The total receipts for the year amounted to £81,865 and the total expenditure £81,716, while the whole assets in the balance-sheet stood at £1,390,921, and the total value of the University site, buildings, and fittings is put down as £593,235. The number of students in the Faculty of Medicine is 334. In the Faculty of Medicine there were 138 pursuing Manchester University degree courses and 242 passing other courses.

Appeal for Funds for Central Branch of the Royal Infirmary.

The new central branch of the Manchester Royal Infirmary is expected to be ready for opening next February. The total cost of the building is £25,000, and the sums received or promised amount to £14,500, so that £11,000 are still required if the branch is to be opened free from debt. The chairman of the board of management has issued an appeal for funds.

The Children and Drink Bill of Salford.

At the annual meeting of the Civic League of Health for organising personal service among the poor of Salford, which was held on Nov. 20th, Mr. F. J. Marquis, warden of the Liverpool University Settlement, after referring to the infant mortality of Salford, pointed out that at 5 years of age 4 per cent. of the children of the borough were suffering from tuberculosis, while 4 per cent. of the children of 12 years were undersized, and 8 per cent. undernourished. Mr. Marquis calculated that 25,000 in a population of rather less than 250,000 were on the verge of destitution. Mr. G. H. Butterly, of the Band of Hope Union, said that Salford's drink bill last year amounted to £819,430. There are 47,937 inhabited houses in Salford. By taking an average of 4·83 persons per house, the average amount per head spent on liquor worked out at £3 10*s.* 9*d.*, or £17 1*s.* 9*d.* per house. During the year 980 children died under the age of one year, a rate of 154 per 1000 births. About 6000 visits had been paid by health visitors to the homes of newly-born children, and yet notwithstanding the better conditions and trained help, little progress seemed to be made.

Manchester Ear Hospital: Annual Meeting.

At the annual meeting, which was held on Nov. 19th, it was stated that the debt amounted to £1699. The chairman appealed for an increase of £300 or £400 for annual upkeep. During the past year 885 operations were performed under general anæsthesia in addition to a very large number of minor operations. Patients are sent from many outlying districts. The Education Committee also send children, and it was stated that the hospital ought to benefit in some way from the Education Committee funds, but so far it had received nothing.

Nov. 25th.

SCOTLAND.

The Dundee Chair in Chemistry.

AT a meeting of St. Andrews University Court, held on Nov. 15th inst., Mr. Alexander Mackenzie, M.A., B.Sc., Ph.D., head of the chemistry department of the Birkbeck College, London, was appointed professor of chemistry in the University College, Dundee, in succession to the late Professor Hugh Marshall. There were 15 candidates for the chair.

Treatment of Tuberculous Cases in Aberdeenshire.

At a meeting of the Aberdeen district committee, held in Aberdeen on Nov. 17th, it was decided that a ward for the treatment of persons suffering from tuberculosis should be erected in the vacant ground at Summerfield Hospital, and that the conditions imposed on the acceptance of the scheme by the Local Government Board should be accepted. These conditions are that within a period of two years from completion of building accommodation would be provided for the nurses by an extension of the present administration block, or otherwise than within the ward.

A Glasgow Physician's Bequest.

The entire estate of the late Dr. Gavin Paterson Tennent, of Glasgow, consulting physician to the Western Infirmary, Glasgow, has been left for philanthropic purposes. The principal bequest is £25,000 to the University of Glasgow for the Faculty of Medicine. The residue of his property he left for distribution between the Royal Infirmary, Glasgow, the Western Infirmary, Glasgow, the Victoria Infirmary, Glasgow, and the Royal Hospital for Sick Children, Glasgow.

Nov. 25th.

IRELAND.

Outbreak of Enteric Fever in a Dublin Suburb.

A SERIOUS outbreak of typhoid fever has occurred in the Pembroke township, which is practically the best residential district of Dublin, being separated from the city merely by the Grand Canal. During the week beginning Nov. 14th some 22 cases were notified to the health authorities. Inquiry disclosed the fact that the families in which the cases occurred had a common milk-supply. The daughter of the dairyman who sent the milk was found to be ill with typhoid fever. The Local Government Board ordered the dairy to be closed, and it is hoped that no further cases may occur. It appears that in all some 60 families were in receipt of milk from the infected dairy.

The National Insurance Act.

Some of the Irish Insurance Commissioners have been visiting different parts of the country collecting evidence in reference to "excessive sickness." They have examined the secretaries of various Approved Societies and their own medical advisers, but in no place have any members of the Local Medical Committees given evidence, as, in accordance with the request of the Irish Medical Committee, they have left that body to deal directly with the Commissioners. The following figures in reference to the insured are interesting. In the whole of Ireland there are roughly 700,000 insured persons under the Act, and of this number 300,000 live in Ulster; and taking the two largest cities there are only 91,000 insured people in Dublin, while in Belfast there are 150,000—exactly one half of all those insured in the province of Ulster. A very remarkable feature of the Belfast figures is that of the 150,000 insured in that city 80,000 are females, which is a proportion of women to men larger than what exists in any other city, not excepting the large industrial centres of Lancashire and Yorkshire; and this fact, taken in connexion with what is generally agreed was a very doubtful actuarial estimate as to the amount of sickness among insured women, is most noteworthy. In reference to the sanatorium benefit the Local Government Board has in several cases refused to sanction the appointment of tuberculosis medical officers until those selected will take further periods of study in order to make themselves conversant with the modern methods of dealing with tuberculosis.

Epidemic of Poliomyelitis.

At Cookstown rural council, on Nov. 22nd, Mr. R. Burgess, medical officer of Coagh Dispensary, co. Tyrone, reported that eight deaths of children had taken place in his district from poliomyelitis, and that several cases were under his care in co. Derry, bordering on co. Tyrone. Mr. H. Harris, medical officer of Stewartstown, co. Tyrone, has also reported a case. No second case has occurred in any one house. Nothing is known as to how this virulent epidemic in a very isolated part of the country has arisen. The schools in the area have been closed, and disinfection and lime-washing of the houses have been employed.

Epidemic Disease in Belfast.

Never in the experience of the present members of the profession in Belfast has there been so much epidemic disease. Dr. A. G. Robb, in his report to the guardians for the week ended Nov. 15th, said that, owing to the large number of scarlet fever cases admitted into the union fever hospital, it had been necessary to provide additional wards, which was done by taking over the recently erected buildings close to the hospital, where accommodation for 75 cases was provided. At a meeting of the board of guardians, held on Nov. 18th, the chairman said they had over 200 cases of scarlet fever in the hospital, and it was decided to appoint for a time an additional resident medical officer. At the meeting of the public health committee, held on Nov. 20th, it was reported that 88 new cases had been notified, and now at the beginning of this week the wards at Purdysburn Hospital are full. Also there is an outbreak of typhoid fever, and 50 cases are in the municipal fever hospital. There is also a number of cases of diphtheria. In the city there is also an epidemic of rötheln, not, fortunately, of a bad type, but the epidemics of scarlet fever, typhoid fever, and diphtheria promise to be severe. Further, cases of ordinary illness are said to be showing anything but good recuperative power, due perhaps to what the older type of practitioner would designate as "the epidemic type of the season." Under the Tuberculosis Act, 1908, a committee of management has been appointed by the city corporation, consisting mainly of members of the public health committee.

Nov. 25th.

PARIS.

The Twenty-fifth Anniversary of the Founding of the Institut Pasteur.

ON Nov. 15th the President of the Republic, with the Presidents of the two Chambers, of the Council of Ministers, many Ministers, and all the directors of the services of hygiene and medicine, visited the Institut Pasteur, where he was received by the director, Dr. Roux, and all the *chefs de service*, Professor Metchnikoff, M. Borrel, M. Laveran, M. Yersin, Dr. Calmette, Dr. Levaditi, Dr. Dujardin-Beaumetz, and others. The President visited the crypt and laid a palm on the tomb of Pasteur and his wife, which was already covered with flowers. After a tour of the institution the company repaired to the great amphitheatre where M. Darboux, a former *doyen* of the Faculty of Sciences and President of the Council of the Institut, delivered an interesting address, in which he traced the history of the institute from its inception as the result of the discovery of antirabic vaccination in 1888. To-day, beside the research laboratories, which are very numerous, and the services for teaching, there are special services for the preparation of serums (to which are attached the stables of Villeneuve l'Etang and of Garches), particularly of hydrophobia, diphtheria, plague, and antivenomous serum, services for epizootics for industrial yeast, with a large bacteriological laboratory, special sections for the study of tropical diseases and of syphilis, with a large monkey house, and, finally, a hospital constructed in accordance with the most modern data of science, which has served since as a model for most of the hospitals for infectious diseases in Europe. Each isolation room is practically a glass cage, entrance to which is gained only from a corridor open to the outer air. In these the gravest cases of the most contagious diseases are treated without a single instance of the transmission of any disease since the foundation of the institution. Dr. Roux traced the work of the school and its pupils, recalling one by one all the discoveries made, calling forth great applause as each name was mentioned. His own connexion with diphtheria antitoxin, however, he modestly disguised under the indefinite pronoun "*on*" Later, in his own laboratory and in working attire, he received a medal struck in his honour at the instance of his collaborators and pupils, but he would not consent to its presentation in the presence of the President of the Republic, as he had refused to sit to the artist for the portrait.

Proposed New Pharmacy Law.

The Académie de Médecine has been called on for an opinion by the Goverment for advice in the question of regulating the sale of dangerous poisons, as legislation has become requisite in consequence of the spread of morphinomania and cocainomania, and also in regard to the commercial use of poisonous substances such as lead arsenate, which are largely used in viticulture to save the vineyards. The poison becomes mixed with dust and, blown about by the wind, is deposited on water, milk, fruits, and vegetables. Another point concerns the right of the chemist to dispense afresh an old prescription. The syndicate of medical men and that of pharmacists are at issue on this point, the former referring to the danger of the injudicious continuance of the use of a prescription that was directed to a particular stage, and perhaps for a totally different illness, and also to the using of prescriptions by persons for whom they were not written, and for whom they may be injurious—dangers especially to be dreaded with habit-forming drugs, and the latter replying that to interfere with their right to renew a prescription will only drive the patients to less scrupulous chemists. This purely commercial argument the medical profession thinks cannot be considered against the danger entailed to the public health.

The Packing of Tea in Lead Foil.

In consequence of an opinion by the Conseil d'Hygiène a circular which, under the authority of Article 3 of the decree of June 12th, 1912, forbade the introduction into France of tea packed directly in contact with lead foil has been suppressed by the Minister of Agriculture. Owing to the protests of merchants that the interposition of paper or tin was hygienically useless, and the regulation tended to paralyse the importation of tea into France, an investigation was ordered, which revealed the fact that for very many years back no case of lead poisoning attributable to the use of tea had been recorded, and that the conditions of its preservation and use did not allow of the possibility of lead poisoning. The prohibiting article, therefore, is not to be applied henceforth to packages of tea and will be modified accordingly.

Memorial to Professor Dieulafoy.

On Sunday morning last a monument raised by subscription to Professor Dieulafoy at the Hôtel Dieu was unveiled. It consists of a marble statue placed on the wall of the corridor of the first storey looking on the courtyard. It is situated beside the entrance of the Trousseau amphitheatre, where for 15 years Professor Dieulafoy delivered every Saturday the lectures the reputation of which attracted a large concourse of French and foreign medical men. Dieulafoy is represented in his professor's robes. Professor Fernand Widal, who delivered the inaugural address, well said that while this celebrated physician was the inventor of the aspirator bearing his name and author of classic works on hypertoxic appendicitis, on the minor symptoms of Bright's disease, and on subphrenic abscess, he was pre-eminently a gifted orator, a man of precise ideas and keen observation, possessed of a sonorous voice and remarkable articulation and of elegant and expressive gesture. Professor Landouzy drew a living picture of Dieulafoy in private life as a methodical and scrupulous man, interesting himself in the arts and in history.

Nov. 24th.

CANADA.

Canadian Medical Schools.

ALL the medical schools of Canada have again opened for the season 1913–14. In the Halifax Medical College Dr. John Stewart, lately honoured by his *alma mater*, Edinburgh University, with the degree of LL.D., has been appointed professor of surgery, Dr. N. E. Mackay having resigned. A new building has just been erected for the department of pathology by the provincial government. Another new building is now in course of erection to accommodate the departments of chemistry and physics of Dalhousie University. Twenty-four new students were enrolled at the opening of the session. In the Western University at London the medical school is now a department of the Western University, with Dr. H. A. McCallum as dean and Dr. W. E. Waugh as registrar. Dr. Paul S. McKibbin, of the department of anatomy in the University of Chicago, has been appointed chief of the anatomical department. The five years' course has been adopted. Queen's Medical College, Kingston, Ontario, has, too, recently become a department in Queen's University. It has a registration list in the first year of 73. In the opening of the medical department of the University of Toronto Dr. B. P. Watson, late of Edinburgh, and now professor of gynæcology and obstetrics, delivered the opening lecture. The registration of students here is as follows: first year, 136; second year, 101; third year, 118; fourth year, 111; fifth year, 89. Fifty-one of these are taking the combined seven years' course. At McGill University Dr. A. C. Geddes has been appointed professor of anatomy in succession to Dr. F. J. Shepherd, who retains the position of Dean.

Amendment to Alberta Medical Act.

The Alberta Legislature now in session is discussing an amendment to the Medical Act, which is designed to induce medical men to settle in the more thinly peopled parts of that province. By it any medical man entering the province, whose diploma gives him the right to apply for examination under the provincial Medical Act, may be granted an interim licence providing he will practise 20 miles away from the nearest practitioner.

The Municipality and Medical Affairs at Winnipeg.

On Sept. 18th at a meeting of the Trades and Labour Council of Winnipeg a resolution was passed calling for a municipal hospital. It was also suggested that the offer of the General Hospital to place the management of the hospital in the hands of the municipal authorities be accepted. Winnipeg recently voted on a by-law to provide the General Hospital with $275,000. Less than 3000 ratepayers voted out of a possible number of 18,000, showing an indifferent public opinion. It has been decided to submit the by-law a second time in December at the annual municipal elections. Dr. R. J. Blanchard and Dr. J. S. Gray, on retiring from the active staff of the General Hospital after 25 years' service, were entertained at a complimentary dinner by their colleagues, when presentations were made. Dr. Blanchard was President of the Canadian Medical Association in 1909, and Dr. Gray is Registrar of the College of Physicians and Surgeons.

The Visit of Sir Rickman Godlee.

Sir Rickman Godlee, President of the Royal College of Surgeons of England, visited Toronto on Nov. 4th to 6th as a guest of the Academy of Medicine. On the evening of the 4th he gave an address to the members of the Academy on foreign bodies in the air passages. In the afternoon of the 5th a special convocation was held by the University of Toronto, when Professor Irving H. Cameron presented the distinguished guest for the degree of Doctor of Laws. In the evening Sir Rickman Godlee was entertained at the Æsculapian Club.

Dr. Grenfell.

Dr. Grenfell, the well-known medical missionary, returned to St. John's, Newfoundland, early in October, after spending the summer in the northernmost parts of the districts which he has made his own.

Nov. 12th.

SOUTH AFRICA.

Medical Inspection of School Children.

LITTLE work has been done in South Africa in this direction, but even that little affords proof of the urgent need for systematic medical inspection in all State-aided schools. A debate on the subject, initiated by Dr. D. M. Tomory, medical officer of health of Bloemfontein, in a paper read before the recent South African Congress, has revealed some diversity of opinions as to whether the work should be carried out by whole-time medical inspectors or by employing district surgeons and private medical practitioners. The Congress recommended the adoption of compulsory systematic inspection of school children, and a copy of the recommendation has been forwarded to the education departments of the various provinces and to the South African Teachers' Association and action has already followed. The size of the subcontinent precludes, one would think, reliance upon whole-time inspectors.

Shortage of Junior Practitioners.

Apparently owing to the operation of the National Insurance Act in Great Britain, for some time past but few practitioners have registered within the Union, and there has been great difficulty in obtaining locum-tenents and in filling junior professional posts in the different institutions in South Africa. As a result of this difficulty many practitioners who have proceeded to Europe this year have had to leave their practice in the hands of local colleagues, sometimes under circumstances which have thrown an extremely heavy burden of work on the men thus acting. Apart, moreover, from the operation of the Insurance Act there is the known fact that a medical newcomer in South Africa has not much prospect, for unless he be an Afrikander the probabilities of obtaining public appointments under present conditions are extremely doubtful.

Friction between the Government and Natal Medical Council.

As a result of differences between the Government and the Natal Medical Council the latter body has declined to proceed with any business save registration.

The Railway Sick Fund Dispute in Natal.

The local medical profession has been unable to obtain the capitation rate demanded, viz., 12*s*., expenses in South Africa being at least 60 per cent. higher than in Great Britain. Already the Natal Sick Fund Board has had to more than double its original offer by coming up to the Transvaal scale of 7*s*., and there is now little doubt that in the Cape action will have to be taken to raise the remuneration there to an equality with that in force in other provinces. Moreover, if the Natal Board can be made to give 12*s*. the other boards can also doubtless be made to do the like. It is understood that the South African Committee have the whole matter under consideration with a view of seeing how the Natal branch can be assisted in its dispute, and whether the time has not arrived when the questions at issue should not be brought to a head also in the other provinces of the Union.

The Milk-supply of Johannesburg.

An excellent report is published by the medical officer of health of Johannesburg covering one prepared by Dr. J. Pratt Johnson, his acting assistant medical officer of health. The total daily supply of the town is 8200 gallons, of which only 2220 come in from outside the municipality. The report reveals some most disgusting conditions in certain dairies. We read, for instance, that a large number of dairies are crowded on single stands 50 feet square, the cowsheds and appurtenances sharing this small area with a dwelling-house and its outbuildings. Of the dairies within the municipal area, 24·8 per cent. are classed as "bad,' and 7 per cent. as "very bad." As regards the outside sources of supply we find 31·8 regarded as "very bad." The report makes a number of recommendations for the betterment of existing conditions which will be endorsed by all, but suggests that discretion should lie with municipalities to consider "personality" in granting licences to dairymen. This would be an utter impossibility in South Africa, for it would develop in most municipalities into the rejection of every applicant other than Europeans.

Health of Beira.

A great deal of indignation is being expressed at Beira at the cavalier manner in which the directors of the Mozambique Company treat questions vital to the health of the territory they administer, particularly at Beira. For years, in spite of many promises, nothing has been done, and recently the community has been informed that the company is not prepared to take action in the direction promised. The most pressing of these questions at Beira are perhaps those relating to the water-supply and to hospital accommodation. Recently the Chamber of Commerce Board decided to start a fund immediately for the purpose of sending a deputation to Lisbon to demand that immediate steps be taken to provide a proper water-supply for the town and hospital accommodation for the territory generally. In the event of the deputation failing to get satisfaction from the directors of the company the matter is to be referred to the Government of the Republic for redress, and every effort will be made to force the Government to take it up.

Nov. 7th.

THE Academy of Sciences of Munich has elected Dr. J. N. Langley, professor of physiology in the University of Cambridge, a corresponding member.

Obituary.

RICHARD DEANE SWEETING, M.A. OXON., M.D. DUB., M.R.C.S. ENG., D.P.H. CAMB.,

SENIOR MEDICAL INSPECTOR TO THE LOCAL GOVERNMENT BOARD.

WE regret to record the death of Dr. Richard Deane Sweeting, which took place in London on Nov. 10th.

Dr. Sweeting, who was the eldest son of Dr. Richard Sweeting, a medical man practising at Clapham, was born in 1856 in the Bahamas, and received his early education at Malvern and Oriel College, Oxford. Later he pursued his medical studies at the London Hospital, where he was house physician and where he gained the Buxton scholarship in 1874. He qualified by becoming a Member of the Royal College of Surgeons of England and a Licentiate of the Society of Apothecaries in 1879. In 1883 he obtained the Howard medal and prize of the Statistical Society for an essay on the Sanitation of Public Institutions.

His early experiences both in medicine and the law—he was called to the Bar by Gray's Inn, of which society he was Holt Scholar in Constitutional Law in 1895—admirably qualified him for the position which he subsequently occupied as senior medical inspector to the Local Government Board. For some ten years he was medical superintendent of the Western Fever Hospital under the Metropolitan Asylums Board, and was an examiner in public health and preventive medicine at the Universities of Oxford and Cambridge. Later he was appointed an examiner in public health to the English Royal Colleges of Surgeons and Physicians. For 20 years he was honorary treasurer of the Epidemiological Society of London, and he was a Fellow of the Royal Society of Medicine and a vice-president of the Epidemiological Section of that society. Having previously served as a temporary inspector during the cholera survey of 1885 and 1886, he joined the medical department of the Local Government Board in 1890, and from that time onward his work was wholly identified with the activities of that important Government department. Many of his valuable contributions to the study of public health are incorporated in the medical returns of the Western Fever Hospital, 1880–89, in Blue-books, 1882 and 1890, and in the minutes of the Metropolitan Asylums Board.

At the Local Government Board Dr. Sweeting was less conspicuously associated than some of his contemporaries with epidemiological investigations and inquiries into the causation of disease, but, on the other hand, full use was made of his extensive knowledge of public health work and administration, and many parts of England can date back the beginning of practical sanitary improvements, or the reform of their public health organisation, to Dr. Sweeting's inspections and reports. He undertook also many important public inquiries for his department, in the conduct of which his skill and legal knowledge were conspicuous. In work of this kind, where perhaps he was at his best, Dr. Sweeting was increasingly occupied until comparatively recently, when failing health compelled him to engage in less exacting duties.

Dr. Sweeting, who was a graduate in arts of the University of Oxford, took the D.P.H. of Cambridge in 1883 and the M.B. of Dublin in 1893, proceeding to the M.D. in 1904. He married in 1883 a daughter of the late Mr. William Rother, of Harrogate, by whom he had two daughters.

GEORGE LEE WELLS, M.B., B.S. LOND., M.B., CH.B. LEEDS, F.R.C.S. ENG.

BY the death of Mr. George Lee Wells, which occurred on Nov. 14th, Leeds has lost a well-known and much respected practitioner. Born in 1856 he received his medical education at Yorkshire College and at St. Bartholomew's Hospital, London, where as house surgeon he obtained the Bentley Prize in 1886. At St. Bartholomew's he successively gained the first junior scholarship and the senior scholarship, while at Yorkshire College, of which he was an Associate, he won the Salt Scholarship. At this college he at one time held the senior demonstratorship of anatomy, and was clinical assistant at the Royal London Ophthalmic Hospital. In 1887 he graduated M.B., B.S. at the University of London, and in the following year became a Fellow of the Royal College of Surgeons of England, having previously in 1884 obtained the Membership of that corporation. For many years he was senior surgeon at the Leeds Public Dispensary, and had held the positions of surgeon to the Meanwood Convalescent Home for Children and surgeon for the National Society for the Prevention of Cruelty to Children. He from time to time contributed to the medical press, taking great interest in cancer research and diseases of the larynx.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Richard H. Trautmann, of the Hamburg Hygiene Institute, whose papers on many bacteriological questions, milk sterilisation, and acute infectious diseases have caused his name to be well known. He was 38 years of age.—Dr. Ponfick, formerly professor of general pathology and pathological anatomy in the University of Breslau, and previously to his appointment to that chair professor in Rostock and Göttingen. He was a great traveller, having accompanied the Grand Duke Friedrich Franz III. of Mecklenburg-Schwerin to Egypt and Nubia, and he always took a great interest in colonial questions and was president of the Breslau branch of the German Colonial Society. His professional contributions to literature include an atlas of medical and surgical diagnosis, and papers on transfusion, myxœdema, and actinomycosis. His age was 69 —Dr. Grynfeltt, formerly professor of clinical medicine in the University of Montpellier.—Dr. G. Bouisson, formerly professor of natural history in the Marseilles Medical School.—Dr. Carl Curman, formerly lecturer on balneology and climatology in the Stockholm School of Medicine.—Dr. Feodor Schuchardt, professor of psychiatry in the University of R[illegible] the Sachsenberg As[illegible] Pressel, of Zuffenhaus[illegible] —Dr. H. Walther, of [illegible]

PRESENTATION OF THE KINGSLEY MEDAL.—Mr. F. V. Theobald, M.A. Cantab., F.E.S., well known for his studies of mosquitoes, has been presented with the Mary Kingsley medal of the Liverpool School of Tropical Medicine. The presentation was made by Mr. F. C. Danson, the chairman of the school, on Nov. 14th, when he entertained a number of friends of the institution at luncheon at the [illegible] Hotel, Liverpool, and read a letter from [illegible] had played such a leading [illegible] ore modern developments of tropical medicine and sanitation. Dr. H. B. Fantham, lecturer on parasitology to the school, who recently undertook an expedition to Khartoum with the object of investigating some of the little-known diseases of the Soudan, was a guest on the occasion, and afterwards delivered an address on his researches.

Correspondence.

"Audi alteram partem."

THE GOVERNMENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editor of THE LANCET.

SIR,—I attended the annual meeting of the Fellows and Members yesterday, and I feel that the attitude adopted by some of those who spoke must do harm to the cause of the Members. I have been present at every annual meeting for the last 17 years, and at several of these meetings the tone adopted by those who spoke has been, to say the least of it, unwise; but I think that this meeting has surpassed those which have preceded it. The whole tone of many of the speakers was insulting to the Council, and I have reason to know that this attitude of some of the Members has estranged many Fellows who at one time were in favour of granting to the Members some share in the government of the College. I am a Fellow and I have always supported the claims of the Members, and I do so still in spite of the tone adopted at the annual meetings; but I have no difficulty in understanding that others who feel less keenly on the matter may be influenced by the action of some of the Members.

The criticism of the finances of the College was unintelligent; the speakers had apparently not troubled to make themselves acquainted with the information contained in the College Calendar. One speaker did not know what was the Committee of Management. The speaker who moved a resolution asking for a balance sheet did not make a single reference in his speech to a balance sheet, but dealt only with items of receipts and expenditure. There is nothing unreasonable in wanting to know how the funds of the College are spent, and I feel sure that all the information desired will willingly be given by the authorities; indeed, at the meeting itself the chairman answered all the questions put to him with an unfailing courtesy, although some of these questions were expressed in terms needlessly unpleasant.

I am sure that in time the Members will obtain some share in the election of the Council, but I am equally sure that the tactics adopted at the present time will postpone rather than hasten that day. I beseech all who have at heart the cause of the Members to do nothing which will estrange those Fellows who are in favour of the extension of the franchise.—I am, Sir, yours faithfully,

Harley-street, W., Nov. 21st, 1913. WILLMOTT EVANS.

To the Editor of THE LANCET.

SIR,—I venture to think that of the topics that are being discussed to-day there are few more important than the future of the Royal College of Surgeons of England.

When at an annual meeting of Fellows and Members, assembled with a knowledge that resolutions were going to be proposed which formed practically a vote of censure upon the administration of the College, we find that not a single Fellow or Member was present to support the Council, we have matter for profound cogitation. Whilst offering respectful homage to the members of the Council as surgeons of world-wide reputation, one cannot help feeling that they are out of place as administrators and legislators when they fail to recognise that they have wholly lost the support and sympathy of the members of the corporation which they rule.

Most Governments feel bound to resign when they earn a vote of censure or lose the confidence of the House; the Council of the Royal College of Surgeons of England, because they are not bound to resign and because their charter enables them to go on independently of the wishes of the Members expressed again and again, simply ignore the situation. This may be pathetic, but it is not sagacious.

In moving my resolution I ventured to suggest that the present charter gives the Council an opportunity of doing the right thing if only they were far-seeing enough, but if, on the other hand, the Council entrench themselves behind their charter and refuse to administer the corporation in accordance with the wishes of its Members, there will be no alternative but a unanimous demand to the Privy Council for an alteration of the charter. It is impossible that the matter should remain where it is. The unanimous meeting of Fellows and Members wholly antagonistic to the method of administration of the Council cannot be ignored.

I ventured to suggest two ways in which the Council under its present charter might go some way towards meeting the needs of the case.

1. It has the right to grant the F.R.C.S. to two Members annually without examination. If the Members selected a representative and the Council honoured their choice by granting the F.R.C.S. and a seat on the Council to this selected M.R.C.S., there would be some recognition that they understood the needs of the case.

The other suggestion is that under their present charter the Council could constitute quarterly meetings of Members for legislative and consultative purposes. Resolutions passed at such meetings would have no force until sanctioned by the Council, but at any rate they would keep the Council in touch with the pressing needs of the profession.

At the present time the Council in no way attempts to guide, counsel, or direct its Members in the times of stress through which they are now passing.—I am, Sir, yours faithfully,

JOSIAH OLDFIELD, D.C.L. Oxon.,
M.R.C.S. Eng.

Mitre Court Buildings, Temple, Nov. 21st, 1913.

⁂ Dr. Oldfield ventures to assume that he is speaking for 17,000 Members.—ED. L.

URETERAL CALCULUS WITH PAIN GREATEST ON THE OPPOSITE SIDE.

To the Editor of THE LANCET.

SIR,—My attention has been directed to an annotation in THE LANCET of Nov. 22nd giving a description of a case of ureteral calculus with pain greatest on the opposite side, which was reported in the *Bristol Medico-Chirurgical Journal* for June last by Mr. C. A. Moore.

In both publications I am correctly quoted as disagreeing with the theory of Knowsley Thornton and Guyon that pain caused by renal calculus may be referred exclusively to the kidney of the opposite side—that, in other words, the *only* pain caused by a calculus on one side may be a reno-renal reflex pain felt in the region of the kidney of the other side.

In the second volume of my book, "Surgical Diseases of the Kidney and Ureter" (pp. 84–86 and 455), I have made it sufficiently clear that I recognise reno-renal reflex pain as well as a variety of other reflex pains, which I there describe, as due to renal and ureteral calculus. But my *opinion to-day with regard to the occurrence of* pain in a healthy kidney of one side, and nowhere else, as a result of the presence of a calculus in the kidney or ureter of the opposite side is the same as when I wrote in 1900. So far as my own experience and researches go, there is not a single case which affords satisfactory evidence of symptoms on one side only being caused by a stone in the kidney of the other side (p. 84, Vol. II., *op. cit.*).

I have recently had under observation a patient who, though free of pain on the left side but with three calculi in the left renal pelvis, had a sharp attack of pain in the region of the right kidney; this pain disappeared entirely after the discharge of a small concretion not larger than half a raisin-pip from the right organ. Had this minute calculus, too small to have given an appreciable shadow in a skiagram, not been detected in the urine, or had it not come away, but had continued to give rise to pain, the calculi which are still present in the left kidney might have been regarded as the sole cause of the right renal pain, and the case might have been described as a typical instance of the theory of reno-renal reflex.

Mr. Moore, with scientific candour, points out that the issue in his case was obscured, "as the pain might have been due to pyelitis produced by the colon bacillus." Still, the reno-renal reflex pain on the *right* side induced him to resort to the transperitoneal manipulation of both kidneys and ureters, notwithstanding the presence of "a markedly tender spot just internal to the *left* anterior superior iliac spine," to the detection by skiagrams of a small shadow in this situation, and to the fact that though pain was felt more in the right loin it occurred simultaneously in the left loin also.

This reno-renal reflex theory was used by Knowsley Thornton as an argument in favour of "abdomino-lumbar nephrolithotomy"—an operation whereby the peritoneal cavity is opened along the semilunar line and the calculus removed through a stab wound in the loin. The theory was urged by him as a reason for preferring that operation to lumbar retroperitoneal nephrolithotomy whereby the *opposite kidney could not, of course,* be examined.

I have pointed out in my book just referred to (Vol. II., pp. 196–8) the absence of confirmation of the theory itself and the fallacies to which its adoption in practice leads. There are many pathological states of the kidney and ureter, including renal calculus, which cannot possibly be detected by manipulating these organs *in situ.*

I have on several occasions been able to demonstrate to others that renal calculi weighing 30 or 40 grains or more, to say nothing of smaller concretions, escape every form of examination by digital compression until an incision has been made into the renal parenchyma. Thus the mere inspection and tactile examination of the kidney from within the abdomen do not afford a sufficient guarantee that the organ is normal within; nor is such an examination sufficient to justify the inference that a calculus quiescent as regards the ureter or kidney in which it is situated is the cause of pain in the kidney of the opposite side.

With reference to Mr. Moore's remarks on the rarity of recurrence of stone after a previous removal, I should like to add that if he will examine the cases tabulated in the first four *tables appended to my Hunterian lectures (1898)* he will find mention of several cases in which calculi were formed at intervals varying from some months to ten years after a previous operation on the involved kidney.

I am, Sir, yours faithfully,

Cavendish-square, W., Nov. 22nd, 1913. HENRY MORRIS.

THE DIAGNOSIS OF SYPHILIS.

To the Editor of THE LANCET.

SIR,—The public health committee of the Chelsea borough council has made arrangements with the Lister Institute of Preventive Medicine for the carrying out of the Wassermann blood reaction free of charge for medical practitioners attending the poorer class of patients residing in Chelsea. Outfits can be obtained at the Lister Institute, and samples of blood may be sent either to establish a diagnosis in suspected cases or during the treatment of cases to ascertain the efficacy of treatment. The name and address of the person from whom the blood is taken must be included in the particulars required of the case, for the information of the medical officer of health as to the status of the patient and his being a resident in the borough. Such information will be treated in the strictest confidence, and no use whatever will be made of it to the detriment of the patient.

It does not seem feasible at the present time to arrange for the microscopical (dark ground illumination method) examination of discharge or material from chancrous sores, as it would seem desirable that such material should be taken direct from the patient by the expert who makes the microscopical examination, owing to possible errors in collecting material by less practised persons, and the effects of drying or other changes upon such material in transit to a laboratory for examination. Negative results in the determination of spirochætæ under such circumstances might give rise to unfortunate conclusions. No doubt this is a matter which will receive early consideration by the Royal Commission now sitting.—I am, Sir, yours faithfully,

LOUIS C. PARKES, M.D. Lond., D.P.H.,
Medical Officer of Health, Metropolitan Borough of Chelsea.

Nov. 22nd, 1913.

RANGE OF FLIGHT OF MUSCA DOMESTICA.

To the Editor of THE LANCET.

SIR,—Recent elaborate experiments recorded in the reports on flies as carriers of infection issued by the Local Government Board fully bear out the natural observations I have made from time to time in field-work epidemiology as to the range of flight of Musca domestica being dependent upon the environment of the breeding-places.

In a special report upon epidemic diarrhœa in Southend in the year 1904 I introduced a "spot" map which showed that fatal cases of epidemic diarrhœa and excessive prevalence of flies occurred in houses grouped round a brickfield in which was an immense collection of house refuse (hundreds of tons), not only from the town, but from parts of London. In my annual report on the health of the borough of Southend for the year 1906 I quote from a second special report published that year, that of some 70 deaths from epidemic diarrhœa that season in the whole borough 30 deaths were within a few hundred yards of the brickfields; 14 more were in a neighbourhood where a large number of stables, provision shops, and chicken-runs had recently come into existence, and flies were in superabundance in all the affected dwellings.

In the same special report I referred to a good-class house inhabited by decent people who kept servants, and which stood by itself some distance from other buildings. When I visited this house it proved to be the most fly-plagued house I ever was in—the ceilings and walls were simply black with flies, and no food could be prepared in the house without flies falling in; three flies were noticed in the baby's bottle. Two young children had suffered from epidemic diarrhœa (the baby died), and the family had fled the house. Less than a quarter of a mile away was a large collection (several tons) of house refuse, and the house was also midway between four farms—a most typical "place of arrestment" (as I termed it in my contribution on "House Flies as Carriers of Disease" in the *Journal of Hygiene*, 1909), because of its relative position to the breeding-place of the flies.

Again and again have I made the observation that flies escaping from a breeding-place are held up by the nearest occupied houses, and this almost irrespective of the direction from which the wind blows or the cleanliness of the house. Recently I was visiting a village in Norfolk where one of a terrace of houses in the main street was occupied by a rag and bone and skin dealer who also kept a horse, and incidentally a considerable collection of stable manure. On investigating the prevalence of flies in this street the difference between the numbers in the dwellings on one side of the street and the other as remarkable—the terrace of houses on the side of the street nearest the fly breeding-place having effected a considerable *arrestment* of flies, when compared with the opposite terrace.

The conclusion I have arrived at from natural field work observation is that flies do not readily leave a house in which they find protection, warmth, and abundance of food. Such houses near breeding-places suffer from a plague not realised by the occupants of houses even in the next street further away, and though fly-papers may show a daily suicide (unintentional) of several hundreds of flies, there are just as many more to be found 24 hours later if the windows are left open and the weather is warm. Of course, some flies in warm weather, if dry, pass from house to house in terraces and streets, and these may carry infection. Where houses are numerous, flies decrease in numbers in inverse proportion to the distance of the houses from the breeding-place. Inversely flies fly further when places of arrestment in the shape of houses are few or far off. Where houses are fairly numerous few flies will be found much beyond a quarter to half a mile radius from the breeding-place. Where houses are few flies will travel further afield, and many more will be found half a mile from the breeding-place than where houses are many. There is no reason why solitary flies should not in time cover a mile or more, especially in the open country. Environment is the chief determining factor in the range of flight of house flies.—I am, Sir, yours faithfully,

J. T. C. NASH, M.D. Edin.,
Chief Medical Officer for Norfolk.

The Shirehall, Norwich, Nov. 22nd, 1913.

THE EFFECTS OF THE DUCTLESS GLANDS UPON DEVELOPMENT.

To the Editor of THE LANCET.

SIR,—There is in THE LANCET of Sept. 6th last a paper by Mr. Hastings Gilford with this title which I have read with much interest. I should like, Sir, to refer to the following passage in this paper (p. 719): "In a case of ateleiosis fully described by Arnold Paltauf there was a tumour of the pituitary body. On the other hand, in Schaaffhausen's case, in a skeleton in the Royal College of Surgeons of Edinburgh, and in a case upon which I myself made a post-mortem examination, there was no gross evidence of pituitary tumour or insufficiency."

I submit that the published accounts of these cases in the originals afford no indication whatever that the pituitary body was examined in any case; that the above is not a statement of facts, but a statement of inferences. In Paltauf's account of his case he states that the sella turcica was very large in all dimensions, not only as compared with that of a child of the same stature, but that the measurements were considerably greater than the average of those of several adults of normal growth. But he makes no mention of pituitary body at all in his account. It may be correct to infer that there was a tumour of the pituitary in this case, since the sella turcica was so much enlarged; but I submit that it is only an inference, not a fact; and Paltauf goes on to state that both the sphenoid and the basilar portion of the occipital bone showed measurements markedly smaller than those of a child of the same height, that the foramen magnum in its antero-posterior diameter was, on the contrary, very large. Is it justifiable to infer from this that structures passing through it were enlarged? Or is it a fact that they were so enlarged? Schaaffhausen makes no mention of the pituitary in his post-mortem account. And the account of the exhumed skeleton written about 14 years later teaches nothing about it. The same applies to the skeleton in the Royal College of Surgeons, Edinburgh, in spite of the additional facts (concerning the sella turcica) stated in Mr. Hastings Gilford's letter to THE LANCET of Sept. 13th. It is not necessary for cretinism that thyroid insufficiency be accompanied by a tumour; and one would ask why it should be in the case of pituitary insufficiency? There remains Mr. Hastings Gilford's post-mortem examination of his own case, and one cannot learn from the account of it that the pituitary was examined microscopically or even macroscopically. It seems probable that the pituitary gland was not in mind when these necropsies were made. Schaaffhausen's account was published in 1868, Paltauf's in 1891, and Mr. Hastings Gilford's in 1903, before the pituitary gland had attracted the amount of attention in relation to growth that it now receives. Paltauf, in his case, states that "the thyroid gland was small and pale red," and one might suspect that it was the thyroid that he looked upon with suspicion, not the pituitary. He did not know how to differentiate his case from cretinism (this is clear from the discussion of it), nor, apparently, did anyone else until Mr. Hastings Gilford took up the study of this condition.

I submit, Sir, that although it may seem probable that abnormality of the pituitary gland is the cause (either the sole cause or by association with other, possibly glandular, abnormality) of ateleiosis, yet there is no knowledge that the pituitary was affected in any case described until now, except, if indeed it be a case of ateleiosis, in Rennie's case in Sydney, for the pituitary has not been examined in the other cases. And it is unscientific to mistake inferences for facts—this can, in fact, only cause subsequent difficulty in the investigation of this condition. I submit that adequate post-mortem examinations are required, and that there are a good many cases, well known, in which an opportunity of making them will be afforded (sooner or later) to enterprising readers of THE LANCET who are interested in this subject.

I am, Sir, yours faithfully,

Adelaide, South Australia, Oct. 14th, 1913. H. RISCHBIETH.

TUBERCULIN TREATMENT.

To the Editor of THE LANCET.

SIR,—Considering the numerous and conflicting opinions as to the use of tuberculin, I think that the report of a year's work at the Islington Tuberculous Dispensary may prove of some interest.

During the year some 102 persons were under observation. Of these, (A) 11 were transferred to their own medical men for home treatment; (B) 9 were tested and found not to be tuberculous; (C) 14 were cured—all active disease arrested; (D) 21 were improved; (E) 31 ceased to attend; (F) 3 were sent away for operation, &c., to return later for treatment; (G) 7 were too early to report upon; (H) 5 were not yet sufficiently tested; and (I) 1 died. Of Class A, 2 are reported cured, 6 greatly improved, 2 improved, 1 no improvement. Of Class D, 11 are greatly improved, 10 are improving. Of Class E, it is to be regretted that the number is so large, but under the present circumstances we are not able to follow them up.

Although we have made no selection of cases, and have taken for treatment every one sent to us, no matter what his condition, we have had only one death, and that occurred before any treatment, or even a test dose, had been attempted. This is less than a 1 per cent. death-rate.

I am, Sir, yours faithfully,

A. H. SANDILAND,
Southgate road, N., Nov. 19th, 1913. Registrar.

BIG GAME AND SLEEPING SICKNESS VERSUS MAN AND HIS ANIMALS.

To the Editor of THE LANCET.

SIR,—Professor Todd has opened in your columns the question of big game and trypanosomiasis. Pending the report of the committee nominated by the Colonial Secretary to consider this very question, one is naturally not at liberty to say anything here of the subjects on which one gave evidence; but one remark I should like to make, and it is this. Your correspondent regards it as quite certain that the trypanosomes found in big game by Dr. Kinghorn and Dr. Yorke *are* pathogenic to man. I would like to submit that this cannot be considered settled until they have been proved to be so in fact. I quite admit the difficulty of obtaining such proof, but that there is need for it is suggested by the recent striking work of Dr. Taute. He found that the blood of animals infected experimentally from wild game with what appeared to be the human trypanosome *was not infective to himself by injection*, although the same blood was pathogenic to other animals.

I submit, then, that he has opened a new question. Does the sojourn in animals of trypanosomes pathogenic to man destroy that pathogenicity? If this is so, what need for destroying reservoirs of the *human* trypanosome? The question of game as a reservoir of trypanosomes pathogenic to domestic animals is, of course, not affected by this new work.

I am, Sir, yours faithfully,

GEOFFREY D. H. CARPENTER, M.D. Oxon.,
Member of Royal Society's Sleeping Sickness
Oxford, Nov. 22nd, 1913. Commission in Uganda.

THE MEDICO-PSYCHOLOGICAL CLINIC.

To the Editor of THE LANCET.

SIR,—As my name has appeared as supporting a proposed psychotherapeutic clinic, I shall be obliged if you will allow me to say that I gave my support under a misapprehension of the aims and constitution of the institution. I have withdrawn from association with it, and I should only support a movement conducted on strictly professional lines.

I am, Sir, yours faithfully,

CHAS. LLOYD TUCKEY, M.D. Aberd.
London, W., Nov. 22nd, 1913.

To the Editor of THE LANCET.

SIR,—Our names having appeared as supporters in the circular convening the recent inaugural meeting of the Psychotherapeutic Clinic, may we be allowed to say that we can no longer support the scheme as it stands at present?

We are, Sir, yours faithfully,

HUGH WINGFIELD.
London, Nov. 20th, 1913. MAURICE B. WRIGHT.

THE NATIONAL INSURANCE ACT.

THE ATTITUDE OF FRIENDLY SOCIETIES TO THE MEDICAL MEN ON THE PANELS.

DELEGATES representing 62,000 members of the Bristol, West of England, and South Wales Operatives' Trade and Provident Society met recently at Cardiff to discuss various matters relating to the administration of the Insurance Acts and the financial situation created by it for their society. The medical profession, in particular, came in for denunciation in respect of the alleged loose signing of certificates, which was described as "a direct incentive to malingering and as largely responsible for the excessive sickness." With regard to this, however, officials of Friendly Societies must be reminded that two or three isolated examples of alleged laxity, however serious in character, are not sufficient to justify general charges and indiscriminate censure or to support a demand for fresh legislation, and that if there is general malingering it is exhibited by their members, who thus deceive their medical attendants. Consequently they are making general charges of dishonesty, of which there must be proof before they are considered to be established. The medical profession has never predicted that the financial provisions of the Act would prove satisfactory, and it has not failed to point out that the picked lives which constituted the voluntary membership of Friendly Societies should not be looked upon as furnishing any basis for estimating the demand for medical attendance likely to arise under compulsory and universal insurance. Medical men on the panel [illegible] be very glad to see the claims of the

Mr. W. H. Dolamore, following, referred to the changes recently made in the staff and to a recent decision to create a new post, that of registrar, whose duty amongst other things would be to keep a record of the wealth of clinical material which passed through the hospital. He hoped that this duty would be combined with research. Much of the school's success was due to the loyal support of old students, who had contributed no less a sum than £15,000 to the needs of the new buildings. He appreciated, with them, the admirable policy of the managing committee to secure good teaching and training in all the departments of dental work. The toast of "The Visitors" was proposed by Mr. F. Coleman, and was responded to by Professor A. Keith and Mr. Walter C. Hale. Finally, the toast of "The Chairman" was proposed by Mr. C. F. Rilot, to which Mr. Rees Price replied in graceful terms of acknowledgment. During the evening an excellent musical entertainment was given, the programme including two numbers by "the hospital quartet" (Messrs. Gow, Metcalf, Thurston, and Williams).

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B. ET FILS, Paris.

Les Actualités Médicales. Le Pneumothorax Artificiel dans le Traitement de la Tuberculose Pulmonaire. Par le Dr. Léon Bernard, Professeur agrégé à la Faculté de Médecine de Paris, Médecin de l'Hôpital Laennec. Price Fr. 1.50.

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Tropical Medicine and Hygiene. By C. W. Daniels, M.B. Cantab., F.R.C.P. Lond., Lecturer on Tropical Diseases, London Hospital. In Three Parts. Part I. Diseases due to Protozoa. Second edition. Price 7*s*. 6*d*. net.

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CHURCHILL, J. AND A., London.

The Diseases of Children. By Sir James Frederic Goodhart, Bart., M.D., LL.D. Aberd., F.R.C.P., Consulting Physician to the Evelina Hospital for Sick Children. Tenth edition. Edited and revised by George Frederic Still, M.A., M.D., F.R.C.P., Professor of Diseases of Children, King's College, London. Price 16*s*. net.

The Ideals and Organisation of a Medical Society. By Jamieson B. Hurry, M.A., M.D., Author of "A History of the Reading Pathological Society." Price 2*s*. net.

DORNAN, WILLIAM J., Philadelphia.

Hospital of the Protestant Episcopal Church in Philadelphia· Medical and Surgical Reports of the Episcopal Hospital. Volume I. Edited by Dr. Astley P. C. Ashhurst. Price not stated.

FISCHER, GUSTAV, Jena.

Handbuch der Gesamten Therapie. In sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Fünfte Auflage. Lieferung 2. Price M.3.50.

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Ueber Histologie und Pathogenese der circumskripten Muskelverknöcherung (Myositis ossificans circumscripta). Von Dr. Georg B. Gruber, II. Assistenten am pathologischen Institute der Kaiser Wilhelms-Universität in Strassburg i.E. Price M.4.50.

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The Elements of Bandaging and the Treatment of Fractures and Dislocations. By William Rankin, M.A., M.B., Ch.B., Dispensary Surgeon, Western Infirmary, Glasgow. Price 5*s*. net.

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KING, P. S., AND SON, Orchard House, Westminster, London, S.W.

A Guide to the Mental Deficiency Act, 1913. By John Wormald (Solicitor, for many years Chairman of Industrial Schools and the Special Schools, Boarding-out and Care Committees for the Mentally Defective in Leeds), and Samuel Wormald. With a Preface by T. Edmund Harvey, M.P. (Warden's Lodge, Toynbee Hall). Price 5*s*. net.

The Ratan Tata Foundation (University of London). The Health and Physique of School Children. By Arthur Greenwood. With an Introductory Note by the Director of the Ratan Tata Foundation. (Published for the Ratan Tata Foundation, London School of Economics, Clare Market, Kingsway, London, W.C.). Price 1*s*. net.

LEGRAND, AMÉDÉE, 36, Rue Serpente, Paris.

Les Hystérotomies Vaginales en Obstétrique. Par le Docteur André Wilhelm de la Faculté de Médecine de Paris, Ancien Interne des Hôpitaux de Paris. Price not stated.

LEHMANN, J. F., Munich.

Jahresbericht der Gesellschaft für Natur- und Heilkunde in Dresden. Sitzungsperiode 1912-13 (Oktober, 1912, bis Mai, 1913). Redaktion geschlossen 14. VIII. 13. Ausgegeben 1.X 13. Price not stated.

LEWIS, H. K., London.

Lectures on Medical Electricity to Nurses. An Illustrated Manual. By J. Delpratt Harris, M.D. Durh., M.R.C.S., Senior Surgeon and Honorary Medical Officer in Charge of the Electrical Department, Royal Devon and Exeter Hospital. Price 2*s*. 6*d*. net.

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The Life of Florence Nightingale. By Sir Edward Cook. In two volumes. Vol. I., 1820-1861; Vol. II., 1862-1910. Price 30*s*. net.

Feeding and Care of Baby. By F. Truby King, M.B., B.Sc. (Public Health) Edin. Issued by the Society for the Health of Women and Children. Price 1*s*. net.

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Kurzer Leitfaden der Psychiatrie. Für Studierende und Aerzte. Von Dr. Ph. Jolly, Assistenten an der Psychiatrischen und Nervenklinik (Geh.-Rat Prof. Anton) in Halle a.S. Price, paper, M.4.; bound, M.4.80.

MITTLER, ERNST SIEGFRIED, UND SOHN, Kochstrasse, 68-71, Berlin.

Medizinal-Berichte über die Deutschen Schutzgebiete: Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Südwestafrika, Deutsch-Neuguinea, Karolinen, Marshall- und Palau-Inseln, und Samoa, für das Jahr 1910/11. Price, paper, M.10; bound, M.11.

NORTH, JOHN, Office of the "Dairy World and British Dairy Farmer," 98 and 99, Fetter-lane, London, E.C.

Farm and Creamery Buttermaking and Students' Reference Book. Third Revision. A Practical Treatise for Buttermakers and Students. By C. W. Walker-Tisdale, F.C.S., Managing Director of the Wensleydale Pure Milk Society, Ltd., Northallerton, and Theodore R. Robinson, F.S.I., late Lecturer in Agriculture, Dairying and Poultry-keeping at the South-Eastern Agricultural College (University of London), Wye, Kent. Price 3*s*. 6*d*. net.

PERLES, MORITZ, Seilergasse, 4, Wien, I.

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REIMER, GEORG, Genthinerstrasse, 38, Berlin, W.

Der Vertrieb pharmazeutischer und kosm [illegible] in Deutschland. Von Ernst Rosenberg. [illegible] Abhandlungen. Herausgegeben von [illegible] fessor der Handelswissenschaft an der Handels-Hochschule zu Berlin. Heft I.) Price M.1.75.

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M B Price 1s net

THIEME, GEORG, Leipzig

Monographien uber die Zeugung beim Menschen Von Dr med Hermann Rohleder, Sexualarzt in Leipzig Band III: Die Funktionsstörungen der Zeugung beim Manne Price, paper, M 5 80, bound, M 6 80

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Appointments.

*lic Institutions,
is column, are
ed to the Sub
orning of each*

ARMITAGE, W S, M.R C S, L R C P Lond, has been appointed Junior Obstetric Officer at St Mary's Hospital

BEARN, F A, M B, Ch B Vict, has been appointed House Physician at the Manchester Royal Infirmary

BENTZ F. O, M B, Ch.B Vict, has been appointed House Physician at the Manchester Royal Infirmary.

has been appointed Senior House
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ouse

has been appointed Second
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ent
ary
Assistant Physician to the Sir Jamsetjee Jeejeebhoy Hospital, Bombay

FAIRBANK, H A T, M B, B S Lond, has been appointed Surgeon to In patients at the Hospital for Sick Children, Great Ormond street

FURNESS, HAROLD S, M D, B S Lond, has been appointed House
egistrar
spector
ng, has
to the
Junior
Senior
House
Royal
Infirmary

LANE, Sir W ARBUTHNOT, M S Lond, F R C S Eng, has been appointed Emeritus Surgeon at the Hospital for Sick Children,

Hospital
has been appointed House Physician

WATERMEYER, H A., M R C S, L R C P Lond, has been appointed Clinical Assistant to the Nose, Throat, and Ear Department at St Mary's Hospital

WILLIS, H D, M B, Ch B Vict, has been appointed Senior House Surgeon at the Manchester Royal Infirmary

WILSON, C M, M D, B S Lond, has been appointed Casualty Physician to St Mary's Hospital

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

ARGYLE AND BUTE ASYLUM, Lochgilphead—Assistant Medical Officer, unmarried Salary £200 per annum, with apartments, board, and laundry

BAT

BEL

BIR
street —Clinical Assistant

BOLTON UNION, TOWNLEYS HOSPITALS, Farnworth, near Bolton—Resident Assistant Medical Officer Salary £170 per annum, with apartments, washing, and attendance

BRISTOL ROYAL INFIRMARY—House Surgeon for six months for Throat, Nose, and Ear. Salary £75 per annum, with board, apartments, and laundry

CAMBRIDGESHIRE COUNTY COUNCIL.—Female Assistant County Medical Officer. Salary £300 per annum

CANCER HOSPITAL, Fulham road, S W—Assistant in Chemical Department Research Institute Salary £200 per annum

CARDIFF, KING EDWARD VII's HOSPITAL.—Two Honorary Assistant Physicians Also Senior Resident Medical Officer Salary £120 per annum, with board, washing, and apartments

CARMARTHEN, JOINT COUNTIES ASYLUM—Second Assistant Medical Officer Salary £180 per annum, with board, lodging, washing, &c

Chester, County Asylum.—Third Assistant Medical Officer, unmarried. Salary £180 per annum, with board, lodging, and washing.

Chester General Infirmary.—House Surgeon. Salary £100 per annum, with residence and maintenance.

Colchester, Essex County Hospital.—House Physician. Salary £100 per annum, with board, residence, and washing. Also House Surgeon. Salary £100 per annum, with board, washing, and residence.

Coventry and Warwickshire Hospital, Coventry.—House Physician. Salary £110 per annum, with residence, board, laundry, and attendance.

Croydon, County Borough of.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £300 per annum.

Devizes, Wilts County Asylum.—Medical Superintendent. Salary £800 per annum, with partly furnished house, coal, light, washing, &c.

Dinas Mawddwy Board of Guardians.—Medical Officer, &c. Salary about £110 per annum.

Dorchester, County Asylum.—Third Assistant Medical Officer. Salary £200 per annum, all found.

Dorchester, Dorset County Hospital.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and laundry.

Douglas, Noble's Hospital, Isle of Man.—Resident House Surgeon, unmarried. Salary £100 per annum, with board and washing.

Dumfries and Burghs, County of.—Two Medical Assistants to *Medical Officer of Health and School Medical Officer.* Salary £250 [illegible]

Eas [illegible] ren and Dispensary for Women, [illegible] Salary at rate of £75 per annum, with board, residence, laundry, &c. Also Assistant Physician to Out-patients. Also Physician on Staff of Hospital. Also Medical Officer to the Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea.

East Sussex County Council Education Committee.—Junior Assistant School Medical Officer. Salary £250 per annum.

Glasgow District Mental Hospital, Gartloch.—Junior Medical Officer. Salary £200 per annum, with board, lodging, and laundry.

Great Yarmouth Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Hampstead General and North-West London Hospital.—Surgeon to the Throat, Nose, and Ear Department.

Hemel Hempstead, West Herts Hospital.—Resident Medical Officer. Salary £100 per annum, with rooms, board, and washing.

Hospital for Sick Children, Great Ormond-street, W.C.—Casualty Medical Officer. Salary £200 per annum, with luncheon. Also House Surgeon, unmarried, for six months. Salary £30, with board and residence.

Huddersfield Royal Infirmary.—Junior Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

Hull Royal Infirmary.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

Hull, Victoria Children's Hospital, Park-street.—House Surgeon. Salary £50 per annum, with board and laundry. Or Assistant House Surgeon. Salary £45 per annum, with board and laundry.

India Office, London, S.W.—Dentists for British Troops in India.

Indian Medical Service.—Commissions in His Majesty's Indian Medical Service.

Kensington and Fulham General Hospital, Earl's Court, S.W.—Resident Medical Officer. Salary at rate of £50 per annum, with board and laundry.

Lady Margaret Hosp[illegible] Gynæcologist and Anæsthetist. Salary [illegible]

Lancashire Educatio[illegible] Medical Inspector. Salary £350 per annum.

Leeds Infectious Diseases Hospitals and Sanatorium for Tuberculosis.—Assistant Medical Officer, unmarried. Salary at rate of £130 per annum, with board, lodging, and washing.

Leeds Public Dispensary.—Honorary Physician, Honorary Surgeon, Honorary Surgeon to the Eye Department, and Honorary Pathologist.

Liverpool, Leasowe Sanatorium Hospital for Surgical Tuberculosis in Children.—Resident Medical Officer, unmarried. Salary £150 per annum, with board and residence.

Liverpool Stanley Hospital.—Two House Physicians. Salary £75 per annum each, with board, residence, and laundry.

London Homœopathic Hospital, Great Ormond-street, and Queen-square, Bloomsbury, W.C.—Assistant Surgeon for Diseases of the Throat, Nose, and Ear. Also Anæsthetist. Salary £50 per annum. Also Resident Medical Officer. Salary at rate of £80 per annum, with board, apartments, and laundry.

London Temperance Hospital, Hampstead-road, N.W.—Anæsthetist. Salary at rate of 25 guineas per annum.

Macclesfield General Infirmary.—House Surgeon. Salary £125 per annum, with board and residence.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer; unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester Royal Infirmary.—Medical Officer for Out-patients and Accidents for six months. Salary at rate of £100 per annum, with board and residence.

Metropolitan Asylums Board.—Assistant Medical Officers, unmarried. Salaries: Second Assistant Medical Officer, £210 per annum; Third Assistant Medical Officer, £180 per annum, with board, lodging, and washing in each case.

Mile End Old Town, Hamlet of.—Junior Assistant Medical Officer. Salary £140 per annum, with board, lodging, and washing.

Miller General Hospital for South-East London, Greenwich-road, S.E.—Honorary Assistant Ophthalmic Surgeon. Also Honorary Physician.

Milroy Lectures on State Medicine and Public Health.—Milroy Lecturer for 1915.

National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury.—Pathologist. Salary £250 per annum.

Newcastle-upon-Tyne City Asylum, Gosforth.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with apartments, board, and laundry.

Northampton General Hospital.—Senior Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, attendance, &c.

Norwich, Jenny Lind Hospital for Children.—Resident Medical Officer (female) for six months. Salary £50 per annum, with board, apartments, and laundry.

Nottingham General Dispensary.—Resident Surgeon, unmarried. Salary £220 per annum, with apartments, attendance, light, and fuel.

Oxford County Asylum, Littlemore, near Oxford.—Assistant Medical Officer. Salary £200 per annum, with apartments, board, and washing.

Paris, British Hospital.—Resident House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

Portsmouth Royal Hospital.—House Physician for six months. Salary £80 per annum, with board, &c.

Richmond, Surrey, Royal Hospital.—Assistant House Surgeon. Salary £70 per annum, with board, apartments, and washing.

Rochdale Infirmary.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Royal Ear Hospital, 42 and 43, Dean-street, Soho, London.—House Surgeon. Salary £40 per annum.

Royal Eye Hospital, Southwark, S.E.—Junior House Surgeons for six months. Salary £70 and £50 per annum respectively, with board and residence.

Royal Free Hospital, Gray's Inn-road, W.C.—Assistant Surgeon.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer for six months. Salary at rate of £70 per annum, with residence, board, and laundry.

St. Thomas's Hospital.—Resident Assistant Physician.

Smethwick, Cornwall Works Dispensary.—Assistant Medical Officer.

Southampton, Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

Taunton, Somerset and Bath Asylum, Cotford.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, attendance, &c.

University of London.—Examiners.

Walsall and District Hospital.—Assistant House Surgeon. Salary £100 per annum, with board, residence, and laundry.

West African Medical Staff.—Appointments. Salary £400 per annum. West Indies.—Trinidad: Supernumerary Medical Officer. Salary £250 per annum and quarters. British Honduras: Two Assistant Medical Officers. Salary £350 per annum. Leeward Islands: Supernumerary Medical Officer. Salary £250 per annum.

West-End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, 73, Welbeck-street, W.—Resident House Physician for six months. Salary at rate of £80 per annum.

West London Hospital, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry.

Western Ophthalmic Hospital, Marylebone-road, W.—Honorary Assistant Surgeon.

Willesden Urban District Council Isolation Hospital, Neasden.—Assistant Medical Superintendent, unmarried. Salary £200 per annum, with board, lodging, and washing.

Worcester General Infirmary.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing. Also Clinical Assistant and Dispenser. Salary £80 per annum, with board, residence, and washing.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Dollar, in the county of Clackmannan; at Sidcup, in the county of Kent; and at Whitby, in the county of York.

_ The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of The Lancet.

Births, Marriages, and Deaths.

BIRTHS.

Legge.—On Nov. 22nd, at Cannon-place, Hampstead, the wife of Thomas M. Legge, M.D., of a son.

Unitt.—On Nov. 21st, at Quorn, Leicestershire, the wife of James Arthur Unitt, L.R.C.P., M.R.C.S., of a son.

MARRIAGES.

English—Sampson.—On Nov. 20th, at Lenton Parish Church, Howard English, M.D., F.R.C.S., to Flora, daughter of Walter Sampson, The Park, Nottingham.

Johnston—Tyers.—On Nov. 24th, 1913, at Christ Church, Hampstead, by the Vicar, the Rev. G. E. Deacon, M.A., J. E. L. Johnston, M.B., [illegible] West African Medical Staff, son [illegible] Works (retired), to Gertrude [illegible] maria, Central India. [illegible] Calcutta.

Mackie—Ball.—On Nov. 22nd, [illegible] unger Captain F. Percival Mackie, [illegible] daughter of W. J. Ball, Upper [illegible]

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PLAGUE AND LEPROSY IN NEW CALEDONIA.

REPORTING on the affairs of the island of New Caledonia, the French penal settlement in the Pacific Ocean, the British Consul (Mr. W. J. Holmes) states that the population at the last Census consisted of 19,319 whites (including 5671 convicts), 3214 Asiatics, and 28,075 natives. Sporadic cases of plague are now almost of yearly occurrence in the island, but on Sept. 17th, 1912, there was an outbreak of [illegible]
ied to assume serious
er, *adopted energetic*
slackened, and the
over three months.

[illegible]
s—i.e., two white women and one native child Most of the white men attacked were old convicts addicted to drink. All persons attacked were inoculated with Yersin's serum, and as a [illegible]

A LETTER FROM LISTER.

[illegible]
that Lister contemplated introducing:—

"DEAR SIR,—I have despatched this evening to you, addressed to the infirmary, a pound of a new material for making the gauze, to take the place of the carbolic acid. It is called thymol.

In preparing the 'thymol gauze' no paraffin is used but
a small quantity of resin, as
eti, *50 parts resin, 16 parts*
charge some gauze for me,
enough to use up the whole thymol—that is, you will require of spermaceti 500 oz., or 31 lb. 4 oz.; of resin 50 oz., or 3 lb. 2 oz.; of thymol 16 oz., or 1 lb.

[illegible]
and resin and
st as you used
uze in the old
as little delay
to me in a tin
[illegible]

JOSEPH LISTER."

THE CASE OF MR. H. T. HAMILTON.

To the Editor of THE LANCET.

SIR,—To the sum of £61 12s. already acknowledged for this fund I have now to add the following: Dr. Gouldesbrough, Welbeck-street, £1 1s.

I am, Sir, yours faithfully,
W. H. GIMBLETT, M.D.

86, Sutherland-avenue, Maida Vale, W., Nov. 25th, 1913.

A SHAM MIRACLE.

A LOCAL correspondent writes that the press has been
making a g [illegible] story of a young
girl from a [illegible] she was said to
be inspired [illegible] evil. When any question was put to her she remained silent a while, and after a few moments there were seen on the skin of her arm or her thigh words formed by raised lines on the
skin,
an an
distar
gave advic
her skin.
men was sc
It was four
graphia, exploited by the subject. It was noticed that the letters appeared only on regions accessible to her right hand. One of the persons present, more suspicious than the rest, forced her to open her right hand, and found hidden there a hair-pin with which she herself traced the letters on the skin. As occurs in all cases of dermatographia, the letters thus traced were followed by a line of cutaneous œdema.

MUNIFICENT BEQUESTS TO BELFAST HOSPITALS.

ONE of the great merchants of Belfast—Mr. John Hogg—
who died about a month
£5000 to the Royal Victo
Forster Green Hospital,
hospitals: The Ulster H
the Belfast Hospital for
Hospital, and the Ulster
Mr. Hogg has also left £1
Nurses for the Sick Poo
Ulster Institution for Deaf, Dumb, and Blind, to the Homes of Rest, Bangor, and to the Edgar Home; while to various schemes of the Presbyterian Church in Ireland he has willed a total of £25,000. Altogether for religious and charitable purposes Mr. Hogg has left the large sum of £40,000.

THE MEDICAL PROFESSION IN WESTERN CANADA.

To the Editor of THE LANCET.

SIR,—Your reply to A.B.C in your columns recently leads me to somewhat expand your advice to the intending young British practitioner in Western Canada. Most young [illegible]
capacity for "getting there," which is the most valued faculty in the Western continent. There are excellent
Not all the English prac-
hough there are one or two
ive talent, and perhaps the
Like most towns on the
ch is on Vancouver Island,
t is the Bournemouth
on the mainland,
lies very deep in the
inada are very high,
specially away from a
large town is rougher and in some respects less comfortable. Life is easier in Victoria, but very expensive. Everything depends upon the adaptability, and throughout the Western continent medical men who make large incomes owe it frequently rather to successful speculation, especially in land, or to some external pursuit, than to their professional returns.

I am, Sir, yours faithfully,
M.D.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced.

In 1913:—

Nov. 24th–29th (Olympia).—Cycle, Motor-cycle, and Cycle-car Exhibition.

Dec. 16th–20th (Aberdeen)—Red Cross and National Health Service Exhibition.

In 1914:—

April 14th–18th (New York).—Fourth Congress of the International *Surgical Society.*

„ 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.

May 1- [illegible]

July [illegible] yal

„ 8th–13th (Edinburgh).—Congress of the Royal Institute of Public Health.

Aug. 3rd–8th (London).—Sixth International Dental Congress.

„ 10th–15th *(St. Petersburg).—Twelfth International Congress* of Ophthalmology.

Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.

September (Vienna).—Third International Congress for Diseases of Occupation

(London).—Anglo-American Exhibition.

(Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.

(Auckland, N.Z.).—Australasian Medical Congress.

(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.

T [illegible] have been received:—
f Tropical Medi-
urphy (Chicago),
and Hygiene.
Journal, Medical
d, South African
Obstetrics and
nal of Medical
rale e Coloniale,
lation Journal,
Gazette, Guy's
Hospital Gazette, &c.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Sir Francis Darwin: (1) On a Method of Studying Transpiration; (2) The Effect of Light on the Transpiration of Leaves.—Prof. J. B. Farmer and Mr. L. Digby: On Dimensions of Chromosomes considered in Relation to Phylogeny.—Mr. J. H. Mummery: The Process of Calcification in Enamel and Dentine (communicated by Prof. J. Symington).—Mr. A. Compton: The Optimum Temperature of Salicin Hydrolysis by Enzyme Action is Independent of the Concentrations of Substrate and Enzyme (communicated by Sir J. R. Bradford, secretary to the Royal Society).—Mr. C. F. U. Meek: The Ratio Between Spindle Lengths in the Spermatocyte Metaphases of Heliae Pomatia (communicated by Sir W. T. Thiselton-Dyer).—Dr. A. P. Laurie, Mr. W. F. P. McLintock, and Mr. F. D. Miles: Egyptian Blue (communicated by Sir Arthur Church).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

WEDNESDAY.

SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—Raymond Crawfurd, D'Arcy Power): at 5 P.M.

Papers:

Dr. Raymond Crawfurd: Martial and Medicine.

Dr. J. D. Rolleston: Medicine in the Greek Anthology (Part II.).

An exhibit will be made of Objects of Medical and Surgical Antiquarian Interest by Mr. C. J. S. Thompson from the Historical Medical Museum of Mr. Henry Wellcome.

SECTION OF OPHTHALMOLOGY (Hon. Secretaries—J. Herbert Parsons, Leslie Paton): at 8 P.M.

Cases and Specimens:

Mr. J. Herbert Parsons: Specimens of Experimental Glasses prepared by Sir William Crookes, O.M., P.R.S.

Papers (at 8.30 P.M.):

Mr. N. Bishop Harman: An Operation to Improve the Effect of an Artificial Eye.

Mr. W. M. Beaumont: Iritis, Rheumatic and Toxæmic.

Dr. Gordon Holmes and Mr. R. A. Greeves: Sarcoma of Choroid with Extensive Secondary Dessemination.

THURSDAY.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Chas. W. Buckley, J. Campbell McClure): at 5.30 P.M.

Dr. Guy Hinsdale: Mineral Springs, their Analyses and Newer Methods of Application, &c., with a Note on Radio-activity of Mineral Waters.

(At 7.15 P.M. the Members will dine together at the Welbeck Palace Hotel, Welbeck-street, W. The charge for the dinner is 4s. each, and Members may bring guests. Members who wish to dine are requested to send their names to Dr. J. Campbell McClure, 41, Welbeck-street, W.)

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert Roberts): at 8 P.M.

Specimens:

Mr. Alban Doran: An Occluded Vagina After Total Hysterectomy.

Mr. J. D. Malcolm: Sloughing Fibroid with Complete Inversion of the Uterus.

Dr. G. G. Alderson: Chrobak's Instrument for Embryotomy.

Dr. Wilberforce Smith: Epidiascope Demonstration on Disappearance of Altmann's Granules in Carcinoma Cervicis.

Mr. Gordon Luker: Hydatidiform Mole and Normal Ovum in Twin Pregnancy.

Short Communications:

Dr. H. R. Spencer: Case of Primary Cancer of Bartholin's Gland.

Mr. Victor Bonney: (1) Case of Pre-eclampsia at the Twenty-fourth Week Treated by Cæsarean Section; (2) Case of Cæsarean Myomectomy with Remarks on the Operation.

Papers:

Mr. Beckwith Whitehouse: The Relation of Syphilis to the Uterus.

Dr. M. G. Stewart: *Case of Fœtus Acardiacus Amorphus.*

FRIDAY.

SECTION OF LARYNGOLOGY (Hon. Secretaries—E. A. Peters, Cecil I. Graham): at 4 P.M.

Cases:

The President (Dr. D. R. Paterson): Extraction from the Bronchi of Three Foreign Bodies, the Colour of which made Removal Difficult.

Dr. W. Hill: (1) Epidiascope exhibition of Skiagrams of Pharyngeal Diverticula; (2) Patient from whom a Post Cricoid Diverticulum has been Removed.

Mr. Layton: (1) Carcinoma of Œsophagus, Gastrostomy, Disappearance of Secondary Deposits, Bilateral Abductor Paresis; (2) Two Cases of Bilateral Abductor Paralysis.

Mr. A. J. Wright: Specimen of Thyroglossal Cyst which Caused Dyspnœa in a Woman aged 54.

Mr. G. Potts: Laryngeal Case for Diagnosis.

Dr. E. A. Peters: Early Pachydermia of Larynx.

And other Cases.

SECTION OF ANÆSTHETICS (Hon. Secretaries—H. E. G. Boyle, Cecil Hughes): at 8.30 P.M.

Paper:

Dr. A. L. Flemming: Review of Inquests concerning Deaths during Anæsthesia 1910–1913.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, C. Price-Jones): at 8.30 P.M.

Laboratory Meeting at the Royal Army Medical College, Grosvenor-road, S.W.

RÖNTGEN SOCIETY, Institution of Electrical Engineers, Victoria Embankment, W.C.

TUESDAY.—8.15 P.M., Papers: Dr. Hampson, Prof. W. G. Duffield, and Mr. T. Murray: Sterilisation of Milk by Electrified Gas. Mr. C. E. S. Phillips will exhibit and describe Some New Radium-emanation Applicators.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Clinical Meeting.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—7.30 P.M., Mr. P. B. Ballard: *Left-Handedness.*

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

FRIDAY.—8 P.M., Cases will be shown. 8.30 P.M., Paper:—Mr. J. E. R. McDonagh: The Biology of Syphilis (illustrated by lantern slides). Followed by a discussion.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

FRIDAY.—5 P.M., Mr. G. H. Makins: Gunshot Wounds. (Bradshaw Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. L. Bunch: Clinique (Skin). 5.15 P.M., Lecture:—Dr. W. Gilliatt: Tubercular Disease of the Female Generative Organs.

TUESDAY.—4 P.M., Dr. C. E. Lakin: Clinique (Medical). 5.15 P.M., Lecture:—Dr. W. P. S. Branson: Some Pseudo-Physical Diseases.

WEDNESDAY.—4 P.M., Mr. R. Howard: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. A. Mantle (Harrogate): The Causes, Symptoms, and Complications of Mucous Colitis, its Treatment by Irrigation of Mineral Waters as done at Plombières and Harrogate.

THURSDAY.—4 P.M., Dr. S. A. K. Wilson: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. Blumfeld: Anæsthesia in Diagnosis.

FRIDAY.—4 P.M., Mr. G. W. Roll: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Diseases of the Rectum.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Baldwin: Diseases of the Rectum.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Baldwin: Diseases of the Rectum.

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[illegible] -3 P.M., Dr. Henry: [illegible]

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 26th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 20	30·16	S.W.	...	60	55	43	47	51	Overcast
„ 21	29·84	S.W.	0·03	69	55	51	51	53	Overcast
„ 22	30·26	N.	0·69	64	48	41	40	41	Fine
„ 23	30·27	E.	...	50	47	37	39	40	Foggy
„ 24	30·00	S.W.	...	68	51	40	44	46	Cloudy
„ 25	30·20	S.W.	...	62	53	43	43	43	Cloudy
„ 26	30·25	S.W.	...	62	55	43	50	52	Overcast

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A Lecture
ON
THE VALUE OF THE CLINICAL POLYGRAPH IN CERTAIN CARDIAC DISORDERS.

Delivered before the St. Thomas's Hospital Medical and Physical Society

By BASIL PARSONS-SMITH, M.D. Lond.,
LATE HOUSE PHYSICIAN, ST. THOMAS'S HOSPITAL.

Mr. President and Gentlemen.—During recent years certain important and far-reaching advances have been achieved in the methods of investigating diseases of the heart, not limited solely to the cases presenting gross and obvious lesions, but including the numerous and interesting derangements of function to which the organ is so essentially prone. These advances result largely from careful instrumental experiments, and embrace not only the observations emanating from the analysis of polygraphic tracings, but also the conclusions arrived at by the electrocardiographic study of the heart beat and the recently introduced method of recording simultaneously the heart beat and heart sounds. There can, in fact, be no doubt that within the last decade the clinical study of heart disease has received a memorable impetus, numerous hitherto unexplained conditions have been identified, classifications have been rendered possible, and as a natural sequence cardiac pathology, profiting by the stimulus, emerges vastly richer in detail and accuracy.

I here bring to notice a series of typical records taken with the clinical polygraph in illustration of the widespread adaptability of the instrument, and proving its real diagnostic worth when used in conjunction with an ordinarily careful physical examination, and this remark applies with equal significance to the valuable aid rendered by the electrocardiogram. As far as possible, the confines of this paper are limited to the province of diagnosis, and deal mainly with such advances as have been achieved by the taking of graphic records, venous and arterial, the former of which have provided a new stimulus to the study of the heart beat from the standpoint of its rhythmicity, conductivity, contractile power, and irritability.

A fact more or less universally agreed upon is that the origin of the beat in the heart of the reptile and the amphibian is in the sinus venosus—viz., that segment of the organ into which the systemic veins flow. The normal contraction of the human heart then, initiated at the sino-auricular node, travels over the auricular tissue to the auriculo-ventricular node, and then on by means of the auriculo-ventricular bundle to the papillary muscles of the ventricles. Now the rate at which the heart contracts—or what comes to the same thing, the rate at which the stimulus material built up at the sino-auricular node explodes—is governed by nervous connexions—viz., the vagus and sympathetic, and it is easy to understand that these can be capable of tonic variation from time to time. We are aware that the vagus nerve, by means of its superior and inferior cardiac branches, exercises through its tonic activity a permanent inhibitory effect on the heart, restraining its actions and allowing of a more perfect metabolism. In addition, however, to this normal inhibitory function we find further possibilities. On stimulation of the vagus—either directly in the neck, indirectly by means of any of its branches, or reflexly by strong stimulation of sensory nerves—there results a marked slowing of the heart, a depressed tonicity of the muscle both auricular and ventricular, and a weakening of the beat, possibly even a cardiac standstill. The sympathetic fibres, proceeding from the second, third, and fourth thoracic spinal nerves, and passing by means of the first thoracic and the inferior cervical ganglia to the cardiac plexus on the aortic arch, contain the augmentor and accelerator fibres, the latter of which are in constant tone in opposition to the permanent inhibitory effect exercised by the vagus.

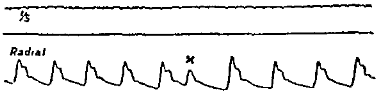
The records illustrating this paper are reproductions from tracings taken with the ink polygraph of Dr. James Mackenzie, which is one of the most convenient mechanical contrivances for securing simultaneous tracings from different points of the circulatory system. It is a conveniently portable and uncomplicated machine, most satisfactory for clinical work, easily manipulated, and one which furnishes us with tracings of any length. The two most usually combined are the standard radial and the jugular pulse, the former being a key to the ventricular excursions, and the latter giving us a valuable insight into those of the auricle.

For the purposes of this paper I have taken four fairly widely recognised cardiac maladies—viz., auricular fibrillation, tachycardia, bradycardia, and premature or extra systoles. I will take the last of these headings first—viz., the extra systole.

Premature Contractions.

There are many patients whose radial pulsations and heart beats continue with complete uniformity for long periods, but in whom an occasional and isolated disturbance is noted, in that a serial beat is missed at intervals; a pause of this character occurs from a variety of causes, such as heart block or sudden vagal stimulation, but the most commonly arising etiological factor is the premature contraction. Sphygmograms and apex tracings from such cases show that the ventricle has contracted before its normal time, and this early contraction is immediately followed by an abnormally long pause. (Fig. 1.) Extra systoles of this character may be found in patients as quite an isolated phenomenon. On the other hand, they may be so frequent as to take the place of each alternate normal beat, causing the pulse to assume at once an intermittent and bigeminal arrangement, and it is only by means of combined venous and arterial tracings that it is possible to differentiate the bigeminal pulse of such an origin from the equally bigeminal pulse exhibited by patients with heart block in whom every third auricular beat fails to get through to the ventricle, and from the cases in which there is a recurring vagal prolongation of each alternate diastole.

Fig. 1.



Tracing of the radiogram showing the occurrence of a premature contraction, marked ×.

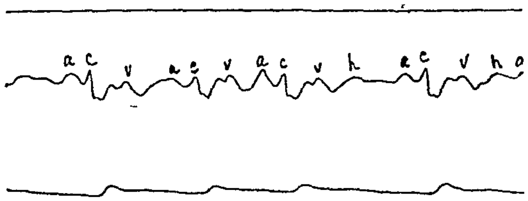
Proceeding further with our investigations on these pathological or premature beats, and comparing them with the normal or physiological, it is at once obvious that there are two fundamental and

Slow Pulse or Bradycardia.

The conception of bradycardia assumes a retardation of the frequency of the heart beat; cases in which there is only one palpable pulse beat to each two cardiac systoles can hardly be regarded as true bradycardia, so that to be exact bradycardia signifies a slow heart beat and necessarily with it a slow pulse. In searching for the causation of a slow heart beat with the object of making a working classification of this common disorder, it is advisable to consider briefly the two following headings: (1) The heart muscle, and (2) its nerve innervation.

Taking the second of these headings, the neurogenic, our attention is at once focused on the vagus nerve and its central connexions; we are well aware that a slowing of the ventricle ensues on excitation of the vaguse entre and on irritation of the nerve at any point from its origin to its intracardiac endings. Bradycardia occasioned by excitation of the centre may have manifold causes, such as hyperæmia or ischæmia of the nucleus itself, the latter being produced by such morbid conditions as meningitis with exudation and by the raised intracranial presence accompanying a cerebral hæmorrhage (Fig. 5), in which latter instance the slow pulsus cephalicus is a well-known cardinal symptom. The retarded pulse under consideration may result from direct or indirect action on the vagus centre—the former produced by a rapid medullary ischæmia, produced by an obstruction, such as atheroma in the basilar artery; the latter from slowly growing cerebral tumours or an insidious meningitis, &c. The cases of bradycardia from irritation of the vagus nerve trunk and its branches are numerous: tumours in the neck and thorax, neoplasm of the œsophagus, goitre, enlarged glands, aneurysm; and reflexly malignant growths of the stomach, gall-stones, and other more remote abdominal disorders.

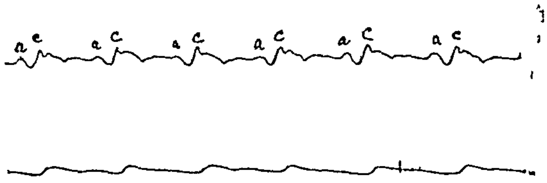
FIG. 5.



Polygraphic tracing from a patient taken 12 hours after a cerebral hæmorrhage; the slow pulsus cephalicus is well marked.

There remains the more important group of bradycardias, those due to affections of the heart muscle. In itself an automatically acting muscle, it is but a natural consequence that this rhythmic action should be depressed, such depression being caused by fatigue, toxæmias, poisons, and the autotoxæmic conditions of jaundice (Fig. 6), anæmia, &c. Closely associated with this depression are the weakened contractility and pulse slowing frequently observed in patients with chronic myocarditis and fatty degeneration of the myocardium.

FIG. 6.

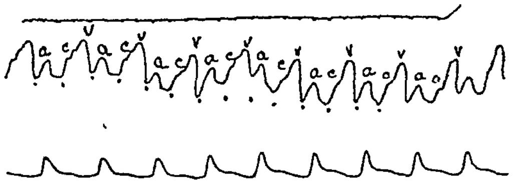


Combined tracing from a patient with intense jaundice of long standing; the pulse-rate was 50; the jugular curve is normal.

The most interesting of the slow pulses I have, however, purposely left until last for a more minute investigation—I refer to the cases in which there is a diminished conduction from block at the auriculo-ventricular junction. This diminished conduction causes a delay in, or absence of, response of the ventricle to auricular impulses—in other words, the normal interval may be increased or there may be intermission in the ventricular beat, and these are the two essentials of heart block, either an increase in the A.S.-V.S. interval, normally 1-5th sec., or missed ventricular beats.

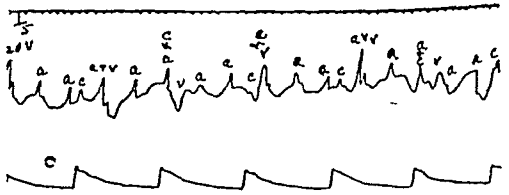
The sphygmogram alone from cases of heart block is usually of little value, but combined with a jugular tracing highly instructive. In it we note the following points: 1. A lengthened A.S.-V.S. interval in the early stages. Every auricular stimulus reaches the ventricle, the pulse rhythm is normal, regular, and unaffected, and but for the jugular record we should be in total ignorance of the presence of heart block (Fig. 7). 2. Isolated irregularly happening auricular contractions which have never reached the ventricle. 3. A slow progression from this irregular disturbance to a more rhythmic condition in which simple ratios are established between the respective rates of the auricle and ventricle, such as two of the auricle to one of the ventricle, a 2-1 heart block so called, &c. 4. A progressive increase in the A.S.-V.S. interval up to the dropped beat. 5. A further grade in which no auricular impulses are transmitted, called complete heart block (Fig. 8), as opposed to partial heart block, in which an auricular contraction is found to precede each ventricular systole. Such complete heart block is characterised by two entirely separate rhythms, the auricle beating regularly at a normal pace, somewhere about 72 to the minute, the ventricle beating at its own or idio-ventricular rate—viz., 30; in other words, no stimulus arriving from the auricle, contraction material is built up locally in the ventricle and explodes roughly 30 times per minute. 6. Prominent peaks in the jugular tracing when auricular

FIG. 7.



Polygraphic curve from a patient with mitral disease and early heart block; the a-c interval is markedly prolonged 1/3rd second as opposed to the normal 1/5th second. Time marker 1/5th second.

FIG. 8.



Polygraphic curve from a case with complete heart block; the pulse is uniformly slow, 35 beats to the minute; the phlebogram shows numerous auricular waves which are not transmitted to the ventricle. These *a* waves are uniformly spaced on the tracing in most instances isolated, but at times coinciding with a *c* or a *v* wave, in which cases prominent peaks are produced.

and ventricular systole takes place together, and there is in consequence a damming back of the auricular contents.

These, then, are some of the characteristics of heart block as ascertained by means of the polygraph, and no less important are the auscultatory phenomena such as the following. During the long pauses caused by the absence of ventricular systole, when we naturally hear no ordinary heart sounds, either first or second, *there is still a soft, irregular,* and muffled murmur appreciable at the base of the heart in the second and third spaces. This murmur is caused by the auricular systole, and is especially well marked in cases of mitral stenosis; such a combination as that of mitral obstruction and 2–1 heart block will produce a very characteristic picture; there will be two thrills and two apical presystolic murmurs to every one ventricular systole.

In a paper dealing with a case of heart block, published in 1899 by His in the German Archives of Clinical Medicine, we find mention of this soft, irregular murmur at the base of the heart, and synchronous with it evident undulatory pulsations in the cervical veins, these both in periods of ventricular silence, demonstrating the auricular activity and the presence of blockage between the upper and lower chambers.

Prior to His's observations came the papers by Adams and Stokes, the former published in 1827 in the Dublin Hospital Reports, the latter in 1846 in the *Dublin Quarterly Journal of Medical Science.* *Adams's case is of historical interest, as it was the* first recorded case[1] presenting symptoms of bradycardia associated with syncopal attacks, the pulse never being more than 30 and periodically becoming slower and almost imperceptible, at which times apoplectic attacks were invariable. Stokes some few years later published his first case, which presented symptoms of repeated apoplectic attacks not followed by paralysis, combined with a slow pulse and a note to the effect that the number of pulsations in the jugular vein was more than double the number of the manifest ventricular contractions. The combination of a slow pulse with syncopal attacks, known as the Adams-Stokes syndrome, was fully explained by His as being due to a pathological condition in the junctional tissues causing a block in the onward transmission of the auricular contraction.

It is a matter of importance to remember that Adams-Stokes disease, as we recognise it to-day, involves necessarily the two conditions bradycardia and syncopal attacks, the latter being caused by the deficient cerebral circulation during the periods of asystole, which periods are necessarily of varying duration. An asystole of 3–7 seconds *causes a transient fainting attack, but if prolonged* to double this time—viz., 15 seconds or thereabouts —in addition cyanosis, pallor, and convulsions make their appearance. At first sight it would seem that these convulsions were only due to the asystole resulting from the heart block, but this is not so.

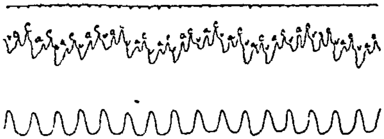
Post-mortem examinations furnish us with additional evidence in the shape of atheroma of the coronaries and the arteries at the base of the brain. The former can obviously so starve the heart muscle as to cause periods of asystole and a resulting cerebral anæmia with convulsions. The latter—namely, disease in the cerebral blood-vessels—is quite capable of causing ischæmia of the vital centres, so much so that the vagus centre is strongly irritated and inhibits the heart action, giving rise to a complete vicious circle, the irritation of the vagus centre inhibiting the cardiac conductivity, slowing the pulse, and still further depleting the aorta and its branches and therefore causing further ischæmia of the medulla. The Adams-Stokes syndrome is therefore not an entity, so varied are the post-mortem findings—coronary atheroma, cerebral arterial disease, embolism or thrombosis of the coronary arteries, and the large and varied collection of pathological lesions found in the auriculo-ventricular bundle, such as fatty degeneration, fibrosis, rheumatic inflammation, gumma, calcification, diphtheritic degeneration, &c.

TACHYCARDIAS.

In tachycardia we find a considerable increase in the number of heart beats, together with a correspondingly increased pulse frequency. Under normal circumstances the adult heart beats at a rate varying from 65–80 per minute, and for all practical purposes this rate may be taken as the fundamental basis, a diminution being designated bradycardia and an increase tachycardia, always remembering the rapid pulse of the infant and the slow cardiac action of the aged. We are perfectly familiar, also, with the increased rate of heart beat during the digestion period, after bodily exertion and mental overwork; this is as normal an occurrence as is the rapid *physiological tachycardia during pregnancy, parturition,* and lactation.

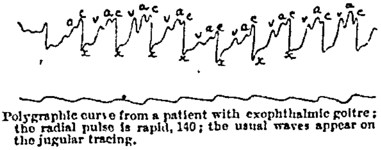
I cannot bring to your notice a more everyday example of tachycardia than that accompanying the febrile state. (Fig. 9.) Broadly speaking, a rise in temperature is the hand-in-hand associate of a rise in pulse-rate, and this rise in pulse-rate depends on the coexisting causes and conditions, such as the nature and virulence of the infection and its toxins, and, furthermore, the quantity of poison present in the circulation, the individual reaction of the patient, and the condition of the heart and blood-vessels.

FIG. 9.



Polygraphic curve from a patient with febrile tachycardia; all the normal waves appear on the jugular tracing.

FIG. 10.



Polygraphic curve from a patient with exophthalmic goitre: the radial pulse is rapid, 140; the usual waves appear on the jugular tracing.

There still remains for consideration those forms of symptomatic tachycardia without any suggestion of fever, and foremost in this group we place atropine poisoning, which causes pulse acceleration owing to its well-known paralysing effect on the vagus terminals; exophthalmic goitre (Fig. 10), also alcoholism, causing the essential degenerative lesions of heart and blood-vessels, over-indulgence in tea and coffee, excessive digitalis medication, and the transitory tachycardia following amyl nitrite and nitroglycerine due in a great measure to the vasodilation so produced. In like manner as the vagus terminals are paralysed by atropine, so may the central connexions of this great inhibiting nerve be affected by pressure resulting from hydrocephalus, tumours of the medulla and cerebellum, and in the late stages of meningitis, following in the latter case the characteristic early bradycardia, which is due to central irritation; not to be overlooked are also such other affections of the nervous system as Landry's paralysis, anterior poliomyelitis, disseminated sclerosis, and acute myelitis should they attack the vagus nucleus.

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[1] With regard to priority in respect of observations upon bradycardia see letters in THE LANCET, Nov. 1st (p. 1289) and 8th (p. 1357), 1913.—ED. L.

In contradistinction to symptomatic tachycardia the group described as paroxysmal tachycardia exhibits an enormous frequency of heart-beats, 200 and even 300 per minute. The fundamental characteristics of this condition include, in addition to the excessive tachycardia, a distinct lowering of blood pressure and the peculiarity that the paroxysms commence absolutely suddenly and end in an equally abrupt fashion. Such attacks vary in duration and intensity in each patient, from the isolated paroxysms of short duration in the early stages to the more severe attacks later on, which may last days, weeks, and even months. The abrupt onset and termination must be distinctly emphasised—they are cardinal signs in the diagnosis, and invariably observed.

Most common in men and frequently following in the wake of rheumatic fever, the cases so far investigated have been, as a rule, free from valvular lesions, but cardiac disability is evidenced by the diminution in cardiac reserve power, lack of normal response to effort, and perhaps signs of early failure, as breathlessness on slight exertion, palpitation, &c. This lack of myocardial reserve is invariably the precipitating agent of the paroxysm, which usually is immediately preceded by some exertion or some disturbing emotion. The paroxysms may last practically any length of time, and most usual are those whose duration is reckoned in hours.

The abrupt onset is signalled by a sense of discomfort in the left side of the chest, a sudden severe attack of palpitation, accompanied by dizziness and general weakness, often cardiac pain, or a feeling of flatulent indigestion, faintness, sweating, and frequent vomiting—the pain, however, not usually approaching that of angina, though in certain recorded cases it has been very severe, violent, and continuous, and with the characteristic radiations of the more severe disorder. The patients complain of constriction of the chest, inability to breathe, or a band of tightness. Such are the early symptoms, and they are closely followed, as we should expect, by signs of embarrassment in the cardiac functions. The heart working, so to speak, at such high pressure begins to flag, and we observe the usual consequences, cyanosis and venous engorgement, dropsy, increased heart dulness, an enlarged liver and spleen, albuminuria, and congestive bronchitis, all resulting directly from the mechanical disability of heart. Such attacks may progress to a fatal termination, but the majority are suddenly relieved, the heart action becoming normal in rate, and all the signs of failure clearing up in a remarkably short time. The heart resumes its normal size, as do also the liver and spleen, and the equilibrium of the circulation, both pulmonary and systemic, is restored.

Bearing in mind the fact that the pulse at the wrist and that at the apex are not always identical, it becomes more than ever important if we are to get at the true rate to count the beats at the apex and not from the wrist. Imagine for a moment that we find a patient whose illness has started abruptly, perhaps following an over-exertion, or by a reflex action from the stomach and intestines by the ingestion of sour or gas-forming food, or from the brain through psychic excitement, fright, &c., with giddiness, epigastric pain, palpitation, but no respiratory distress, no pulmonary râles, and pallor rather than cyanosis, and a heart-rate of 160–200 per minute or over, and this rapid rate with a regular pulse beat. Our first conclusion is that we are in the presence of a new rhythm rather than an accelerated normal rhythm; and the differentiation between a new rhythm and an accelerated normal rhythm is further advanced by the simple test of the reaction of the heart-rate to posture, the general rule being that the symptomatic tachycardia decreases in rate or even disappears with the assumption of the supine position. Not so, however, with the cases under consideration, paroxysmal tachycardias, in which is postulated a new and extraneous rhythm, maintained under a variety of circumstances, with no regard for posture, and uninfluenced by swallowing or the suspension of respiration. Such tachycardias cannot be caused by paralysis of the vagus, for in the latter condition the accelerated pulse is permanent and never exceeds 150 beats per minute nor can they be explained by an irritation of the sympathetic, which if existing would cause a gradual rise in rate at the commencement, and an equally gradual slowing at the termination of attack. An acute primary dilatation of the heart has been suggested by some clinicians as the causative factor in the malady, but this seems hardly sufficient, for it is difficult to imagine that a dilatation can be abruptly effected and equally suddenly disappear, apart from the fact that such a dilatation is not observed either by X rays or even suggested by percussion.

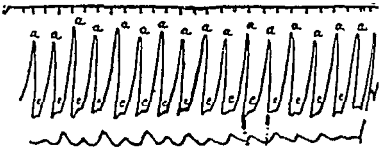
The paroxysmal tachycardias are divided into three main groups: (1) the auricular; (2) the ventricular; and (3) the nodal or junctional. And of these groups it is well to consider the most common first—viz., the auricular tachycardias—before investigating the exceedingly rare ventricular.

As we should expect, graphic records are highly illuminating in the differentiation and accurate diagnosis of such cases, and of no less importance are those taken during the slow period than those obtained at the actual times of the paroxysms, for this reason: the malady is one of an insidious and slowly developing character, years possibly passing before it assumes its unmistakable features—in other words, there is a well-marked prodromal stage or period of invasion, during the early part of which we find the appearance of an occasional pulse irregularity. A tracing obtained about this time proves the irregularity to be of the nature of an extra systole or premature contraction of some one of the previously mentioned varieties. As time goes on the patient complains of the cardiac irregularity becoming more troublesome, the extra systoles are more frequently cropping up and with less provocation than heretofore; at times they appear alternating with each normal beat, or with each second normal beat, and sooner or later we find a short sequence or run of these extra systoles interfering with the normal rhythm. We have now reached Stage II.—viz., the extra systole in short series; and a confident opinion may be given that we are passing over the border-line separating the extra systole, in itself a comparatively unimportant phenomenon, and the more serious condition that we are now discussing—viz., paroxysmal tachycardia, or Stage III. in the series. Having traced the series from the singly occurring extra systole, through its various phases, up to the onset of Stage III., it will be obvious to all that paroxysmal tachycardia is but the expression of a heart in which at times beats arise ectopically and give rise to the occurrence of multiple premature beats in series.

A short description of the curves obtained from a typical case of paroxysmal tachycardia of the auricular variety embraces the following points of interest. Taking first the arteriogram, we notice an unduly rapid pulse tracing, the beats of which are regularly occurring and of constant magnitude, the paroxysm itself being usually ushered in by an extra systole and concluding with a long pause. It is noteworthy that the extra systoles of the slow periods may be of a totally different variety from that introducing the paroxysm—for instance, typical ventricular extra systoles have been described and demonstrated interfering with the normal rhythm of the slow-pulse periods in a patient the subject of auricular tachycardia whose paroxysms began with the normal auricular extra systole. The main point, however, to remember is that the paroxysm is introduced by an extra systole.

Turning now to the jugular tracing (Fig. 11), we find, as a rule, a succession of prominent *a* waves preceding the *c* waves by the normal *a-c* interval. These *a* waves are high and prominent for two possible reasons—first, the fact that owing to the rapidity the auricular beat falls back and becomes coincident with the previously occurring ventricular systole, the wave being indeed a compound one, combining the normal *a* and *v* waves; secondly, the possible instrumental error, the sudden and extensive venous movement causing the tambour and pen in some slight measure to overshoot the mark. In consequence of the auricular contraction taking place coincidently with the previous ventricular and the auricular wave falling back the venous pulse assumes the ventricular form during the paroxysms—i.e., all the waves are systolic in time, and the diastolic interval is practically *nil*.

FIG. 11.



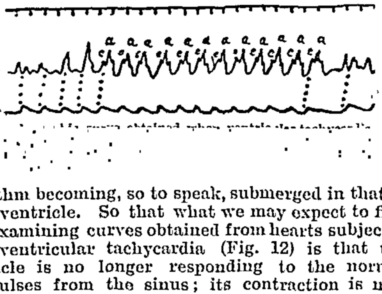
Typical polygraphic curve from a patient with auricular tachycardia; the prominent *a* wave precedes the *c* wave by the normal interval. (Lewis: Heart, 1909, vol. i., p. 48.)

Shortly summarised, the venous pulse passes from the normal by an extra systole which originates a series or sequence of extra systoles, which sequence may vary in duration from minutes to days, finally ceasing suddenly and continuing after a pause the normal rhythm. But there is one stage further, and one whose explanation is not far to seek—viz., auricular fibrillation, in the development of which a rhythm already arising in an ectopic focus gives place to one in which there are multiple ectopic foci originating impulses which descend in haphazard fashion to the ventricle, the usual state of affairs in auricular fibrillation.

Our knowledge of the ventricular tachycardias is of a somewhat more fragmentary and uncertain quantity, mainly consisting of the results accruing to the work done by Dr. T. Lewis, of University College Hospital.

Apart from the paroxysms, the rhythm of the auricle is presided over, so to speak, by the impulses descending from the sino-auricular node, which impart to the auricles, and through them to the heart as a whole, the rhythmic stimuli for the normal cardiac contraction; or differently expressed, the auricular is the dominant rhythm at all normal times; then comes a typical paroxysm, and with it a new rhythm—viz., the ventricular, so that for the time being there are two dominant rhythms originating, the one in the upper and the other in the lower chamber. Now the mechanism of the cardiac contraction is to a certain extent adaptive, but it will not stand too gross an interference. Obviously two different rhythms in action simultaneously are not likely to conduce to an absolutely satisfactory result; one of two things must happen—either the two opposing rhythms continue or one gives way, and this latter alternative is the one most usually followed, the auricular rhythm becoming, so to speak, submerged in that of the ventricle. So that what we may expect to find in examining curves obtained from hearts subjected to ventricular tachycardia (Fig. 12) is that the auricle is no longer responding to the normal impulses from the sinus; its contraction is now dependent on impulses from the lower chamber—in other words, we have a reversal in the order of things, the ventricle responding to its ectopic impulses, initiates the cardiac contraction, and the auricle follows suit, *its systole being governed by* the retrograde stimulation, upwardly transmitted from the ventricle.

FIG. 12.



[illegible] curve obtained when ventricular tachycardia

To take the tracing more in detail we find that the paroxysm is initiated as usual by the extra systole and the auricular rhythm is at once interfered with; after a few beats, however, the auricle has become educated and is responding to each ventricular contraction; the *a* wave follows the *c* wave in an exactly similar manner to that in which the *c* wave normally follows the *a*. And so the curve continues, *a* following *c*, until the end of the paroxysm, where we notice the long pause occurring which prefaces the return to the normal rhythm.

Retrogression is, however, not the invariable rule, for the auricle may continue to beat in normal fashion throughout the paroxysm, especially if it be one of short duration, and under these conditions the *a* waves may be identified, regularly spaced and at their proper intervals, not only on the venous curves but also on the electrocardiographic records, where the typical base negative duration is exposed with extreme lucidity.

The one remaining type of paroxysmal tachycardias is that in which the impulse originates somewhere in the neighbourhood of the auriculo-ventricular junctional tissues. An impulse of this nature will reach the upper and lower chambers approximately at the same moment and give rise to a simultaneous contraction of the auricle and ventricle, which causes a prominent *a-c* wave on the jugular tracing. Briefly enumerated, the chief characteristics of the jugular tracing in such a case of nodal tachycardia are: (1) irregularly occurring atrio-ventricular extra systoles prefacing (2) a period of tachycardia, in which we notice either (*a*) single prominent waves the combination of *a* and *c*, bearing witness to the simultaneous contracting of auricle and ventricle, or (*b*) a series of waves in which the *a* precedes the *c* as normally, but by a much reduced *a-c* interval, and which concludes (3) with a characteristic long pause.

ON A CHANGE OCCURRING IN THE PELVIS IN A CASE OF PREPUBERAL ATROPHY OF THE TESTICLES.[1]

BY H. BATTY SHAW, M.D. LOND., F.R.C.P. LOND.,
PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST;
AND
R. HIGHAM COOPER, L.S.A.,
MEDICAL OFFICER IN CHARGE OF ELECTRO THERAPEUTIC AND X RAY DEPARTMENTS, UNIVERSITY COLLEGE HOSPITAL, ETC.

THE patient, aged 24 years, came under the observation of Dr. W. Egmont Kirby for slight cough and debility. Amongst other symptoms of which he complains are obscure pains in the left abdomen associated with constipation, alternating with the passage of loose offensive stools containing "slime." He is of late years becoming irritable in temper. He is susceptible to cold weather and wears two or three undergarments of wool, and in the recent mild weather generally wears a heavy ulster. His appetite is not good; frequently he misses meals; he is troubled with flatulent distension of the stomach and has nausea occasionally. Though frequently drowsy in the day his sleep at night is prevented by palpitation. He passes urine during the night two or three times, which is partly explained by an inordinate thirst. Other than palpitation and dyspnœa on making much muscular effort he has no cardiac symptom. His former tendency to faint has now passed off. He is sensitive about appearing in public, as his appearance, he says, attracts attention. He is tall and slightly built and, as he says, "his juvenile face and his height" seem to be the reason why people make remarks about him. As long as he can remember his limbs, especially the legs, have been long. He says that at seven years of age he was taken to the West London Hospital for an injury to his leg, and that it was then noticed that his testicles were misplaced, and massage and manipulation were ordered to make them reach the scrotum. At 17 years of age his testicles were present and still out of place. He was advised to press them down into the scrotum and to wear a truss to dislocate them downwards into the normal position. His general condition at this time was such as to lead his local medical man to advise a consultation. Ever since the age of 17 the organs have still further diminished in size, and now he says that the left one has disappeared and only by stretching the skin can the vestige of the right one be demonstrated. There have never been nocturnal emissions; he has no sexual desire; occasionally there used to be erections, but there have been none for a long time.

His father is alive and of good height; his mother also is alive, but is of small stature. One brother, who was 6 ft. 6 in. high, died from pulmonary tuberculosis. Another brother, who is of good height, is healthy and has two children; a sister died from an unknown cause. He had some form of dysentery when in South Africa a year ago. In early years he had erysipelas and whooping cough and does not remember having had mumps. He was breast-fed as an infant.

He is a tall subject and stoops a little, but there is no lordosis of the lumbar spine; his height is 6 ft. 3 in. and weight 7 st. 8½ lb. His face is boyish in appearance, and he presents no signs of hair on the face. His voice is high-pitched, his head is mesaticephalic, having a breadth index of 80, the maximum length of the head (from glabella to occipital point) being 7¾ in. and the maximum breadth measured above the supramastoid ridges 6¼ in. Radiographic examination of the head shows no enlargement of the sella turcica. Although the pomum Adami can be felt it is ill-developed. The skin generally is very soft, the hair of the scalp is abundant, and fine hair is present on the forearms There is no axillary or pubic hair. The length of the body from the suprasternal notch to the top of the symphysis pubis is 22 in., from the top of the symphysis pubis to the ground 42 in.—the corresponding measurements of a normal man of the same age being 22 in. and 33⅜ in. respectively He is physically active, but the musculature is slender. The development of the trunk is poor, more especially of the chest. The fingers and toes are long and tapering and the nails filbert-shaped. A photograph taken when a child shows that his fingers then were much shorter and blunter. He is very intelligent, reading hard and working at his vocation with great enthusiasm often to the neglect of his meals. He is free from all symptoms indicating intracranial tension, and there is no alteration of the fields of vision and the fundi oculorum are normal.

The external measurements of the pelvis are given, followed by those of another normal subject of about the same age for comparison: Interspinous, 9 in. (control 9 in.); intercristal, 10¾ in. (11½ in.); external conjugate, 7 in. (7½ in.); between posterior superior spines, 4 in. (4 in.); between tuber ischii, 3¼ in. (4 in.).

The thyroid gland is defined with difficulty. In August of this year he had a cough, but the expectoration revealed no tubercle bacilli and the lungs and heart revealed no abnormality. The chest is badly shaped, and there is evidence o rickets at the costo-chondral junctions. The tongu is slightly furred, the gums somewhat spongy, an the teeth a little carious, some artificial. The urin shows no sugar or albumin. There is nothin abnormal in the abdomen.

Genital system.—In recumbency the symphysi pubis appears to be more prominent than usual. The penis is smaller than normal, and the testicles are absent from the scrotum, which also is small. On stretching the skin in the neighbourhood of the right pubic spine a small ill-defined mass can be defined which on pressure causes pain; the left testicle cannot be found at all.

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[1] Being a paper read before the Section of Medicine of the Royal Society of Medicine on Nov. 25th, 1913.

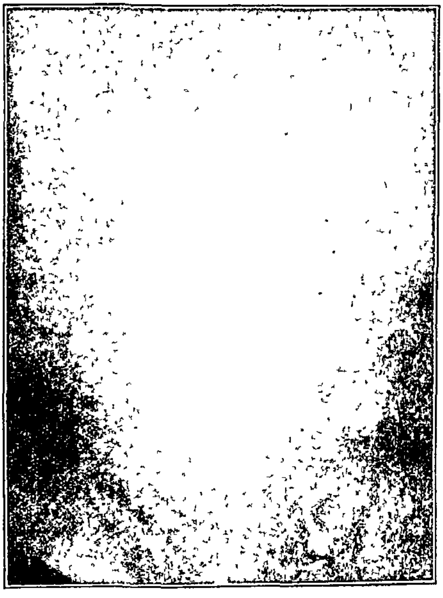
The skeletal system.—There is some tendency to stoop, due to an exaggerated curvature of the dorsal spine. This is not accompanied by lordosis; indeed, the lumbar part of the spine is inclined to share in the arc of curvature seen in the dorsal region. X ray examination shows that the bones generally are less dense than normal, and there is delay in development. For example, the following epiphyses are not only not fused but show no sign of commencing fusion, being still separated from their diaphyses by a wide interval of cartilage in which no calcification is visible: Humerus, internal condyle, which should be completely fused between 17 and 18 years; radius (head), which should be completely fused between 18 and 20 years; lower epiphysis, which should be completely fused between 18 and 20 years; ulna, lower epiphysis, which should be completely fused between 20 and 25 years; bases of phalanges, which should be completely fused between 18 and 20 years; heads of metacarpal bones, which should be completely fused at 20 years.

The brim of the pelvis shows definite bulging inwards in the neighbourhood of the acetabula, suggesting an early stage of the triradiate pelvis. The contour of the inlet is cordiform. There is a wide separation of the pubic bones at the symphysis. The relation of the transverse to the antero-posterior diameter of the inlet of the pelvis is as 57 to 67 in the radiogram. (See figure.)

Beyond the general appearance of want of lime in the bones there are no other marked departures from the normal. There is, however, marked loss of density of the anterior part of the bodies of the dorsal vertebræ at the point of the greatest spinal curvature. There is no abnormality in either of the sacro-iliac synchondroses.

Comment.—The interest connected with this case, apart from the singular clinical features of the malady, is twofold. The major one involves a matter of principle and is connected with the problem of gigantism. Is the long-limbedness due directly to disturbance of the internal secretion of the testicle, or is it an indirect result and primarily dependent upon secondary changes produced in the pituitary body by the disturbed function of the testicles? *In other words, Is gigantism a function of disturbance of the pituitary body only?* The second question, of less but still of great importance, is what is the cause of the unusual shape of the brim of the pelvis?

With regard to the first problem the features connected with castration in men and the production of eunuchism are clearly defined; our case shows many of the features described. Castration of men after puberty, beyond functional disability, causes no morphological change in the individual, because, although internal secretion from the testicles is no longer possible, the influence is carried out by para- or extra-testicular tissues which after puberty are endowed with the power of performing the part previously performed by the testicle alone. If castration is carried out before puberty is established, then removal of the testicles means removal of the tissue which alone is capable of developing and maintaining the secondary sex characters. The result is that a sort of, but not a real, infantilism appears—e.g., the facial characters are infantilic, but the true infantilic features of a small skeleton and relatively short limbs are not developed. The vesiculæ seminales atrophy and the prostate, if already developed, retrogresses, or if not yet developed fails to develop. The penis does not usually shrink and, as in this case, is capable of being erected, hence the "haremic" rule amongst some Eastern people of amputating this organ as well as removing the testicles. The pelvis does not assume feminine characters, but rather infantile ones, nor is the psychical change feminine, the eunuch as a rule being restful and placid. In other words, hetero-sexualism is not a feature of the eunuch. Gigantism develops, as is shown by the long-limbedness (or "Hochbeinigkeit"), and is immediately due to the persistence to a late date of separate epiphyses and the maintenance of a cartilaginous character of the epiphyseal line. In the case of the female, if the ovaries are removed before puberty, the breasts fail to develop owing to the absence of internal secretion from the ovaries, development of the breasts being quite distinct from functioning of the breast, which is now known to depend upon biochemical stimuli derived from the fœtus.



From a skiagraph of the pelvis, taken with plate in front, showing the abnormal shape of the pelvic brim—transverse contraction with bulging inwards in the neighbourhood of the acetabula

Castration of the male before puberty results in the absence of development of secondary sex-characters; the hair of the body is spare—no hair develops about the anus, and pubic and axillary hair if present are scanty. The face is beardless, but if castration is rather late there may be a marked development of the beard. The configuration of the thyroid cartilage does not become feminine, but remains child-like and no pomum Adami develops. Ossification does not take place in any part of the thyroid cartilage; the voice is a child's soprano, not a woman's. Not all eunuchs are fat, some indeed are very thin, as in the present case, though possible tuberculosis must be borne in mind. It is known that in animal castration only 50 per cent. of them develop abnormal fat. The "genital" adiposity when it occurs in eunuchs assumes the features of the fat development of women. Castration causes a reduction of oxidation of the tissues, but unlike the metabolic change following removal of the ovaries reduced oxidation cannot be remedied in the male by extracts of the ablated organ. The architecture of the bones is profoundly altered by castration, so that they appear under X rays to be less dense. The skull is altered in shape and becomes dolichocephalic owing to an increase of the relative maximum length. The trunk shares in no way in the increase in length shown by the limbs. Senility ultimately becomes a marked feature.

Another feature noticeable amongst eunuchs is the interesting change which is noted in other glands. In some cases the thyroid gland is reduced in size, the thymus enlarges, and the pituitary body shows increased function. It is now well known that hyperpituitarism occurring in the young not only causes gigantism, but also atrophy of the testicles and ovaries, so that we are now brought face to face with the major problem above referred to—viz., Is the gigantism of the present case a direct result of testicular atrophy, or is it due to the hyperpituitarism set agoing by the testicular atrophy? It would seem that evidence is in favour of the latter probability. The absence of head symptoms and of enlargement of the sella turcica in our case in no way negatives the view, for hyperfunction of the pituitary body is in no way necessarily accompanied by enlargement of the hypophysis.

A perusal of the features met with after experimental ablation of the testicles in animals and of the description given of spontaneous atrophy of the testicles in men of the eunuchoid state shows that they are so parallel with those met with in eunuchs, that we do not hesitate to say that the features of our case are really due to the testicular atrophy, and the patient may be classed as eunuchoid or as a spontaneous eunuch.

At the same time it must be admitted that if hyperpituitarism can exist without the presence of a tumour formation in the hypophysis cerebri, the above diagnosis may be wrong, seeing that a feature of primary hyperpituitarism is testicular atrophy, for this secondary testicular atrophy may quite well produce those features of a eunuch which hitherto have been and still are regarded as essential features of dysgenitalism. This very difficulty seems to remind us of the fact now being so fully admitted that several diseases at one time considered to be of uniglandular origin—e.g., Graves's disease—are, on the contrary, in reality complexes due to pluriglandular disorder.

The second question which now remains to be settled is, What is the cause of the unusual shape of the brim of the pelvis? The radiograms show that it is narrower in the transverse diameter than it is in the antero-posterior one, and that there is a bulging inwards of the brim in the neighbourhood of the acetabula. It has already been stated that there are signs of old rickets as shown by the beading of the ribs, and it is possible that the brim of the pelvis owes its shape to this disorder. So far as we can ascertain, the pelvic brim in rickets does not assume the appearance met with in our case. We have already pointed out that observations show that in eunuchs the pelvic change is one of infantilism, but in no infant or fœtal pelvis we have examined has the configuration above described been met with.

There remain but two further possibilities which, taken in conjunction, appear to give a reasonable explanation of the abnormality. For this explanation we are indebted to Dr. Douglas E. Derry, who has paid so much attention to the anatomy of the pelvis. He has shown us a pelvis of a negro whose height must have been over 6 ft.; this pelvis reveals an inlet which recalls very closely the shape of the inlet met with in our case, in so far as the antero-posterior diameter is greater than the transverse. The same configuration is met with in the apes, so that it is possible that the pelvis in our case is really an example of reversion to a lower type. As Dr. Derry explains, the spine of the negro, unlike the European man's, shows a curvature with the convexity backwards, and the lumbar spine shares in this curvature, being less inclined to be straight or even to be convex forwards, as in the European. The result is that in the negro and apes the pelvis is less inclined to the horizontal, and consequently the weight of the body is less likely to compress the pelvis and less likely to make it assume a flattened contour so far as the brim is concerned. We have seen that in our case the dorsal curvature is increased, but is not compensated for by the development of lordosis, with the result that the same want of compression of the pelvis is met with as in the negro and the apes.

There remains one feature, however, that is not met with in the negro pelvis nor in that of the apes and yet is present in our case, and that is the inward bending of the brim of the pelvis in the neighbourhood of the acetabula. We were inclined to think that this was due to a softening of the pelvic bones akin to osteomalacia, which yielded to the pressure transmitted by the heads of the femora. Dr. Derry's explanation is a much more likely one, and it is that the acetabular regions, which are the meeting points of three bones—the ilium, ischium, and pubic bones—have shared in the delay in union which is so marked a feature in the case of the epiphyses in other parts of our patient's skeletal system, and is so well recognised as a feature in prepuberal destruction of the testicles. This want of solidification in and about the acetabulum has led to the bone in these regions yielding to the increased thrust by the heads of the femora. So far as we know at present this abnormality has not hitherto been described in the pelvis of eunuchs.

ROYAL SANITARY INSTITUTE.—A sessional meeting of the institute will be held at 90, Buckingham Palace-road on Dec. 9th, at 7.30 P.M., when the Progress of School Hygiene will be considered. A discussion on the report on the Fourth International Congress on School Hygiene at Buffalo will be opened by Dr. James Kerr, medical research officer, London County Council, and the following are announced also to speak: Professor A. Bostock Hill, Mrs. K. Marion Hunter Vaughan, L S A., D.P.H., Professor H. R. Kenwood, Mr. C. W. Kimmins, D.Sc , Chief Inspector (Education), London County Council; Dr. Eric Pritchard, Mr. J. Osborne Smith, F.R.I.B.A , and Miss Turner, Assistant Inspector (Education), London County Council.

TREATMENT OF YAWS BY INTRAMUSCULAR INJECTIONS OF SALVARSAN.

A REPORT ON A SERIES OF 45 CASES TREATED AT THE YAWS HOSPITAL, ST. GEORGE'S, GRENADA, B.W.I.

BY R. P. COCKIN, M.A., M.D., B.C. CANTAB.,
RESIDENT SURGEON, COLONY AND YAWS HOSPITALS, AND BACTERIOLOGIST, GRENADA.

THE following series of 45 cases of yaws treated with intramuscular injections of salvarsan is of interest as displaying the value of the intramuscular method of injection, and at the same time the radical change effected by the introduction of this drug as a mode of treatment for one of the most intractable of tropical diseases.

Since when this series was under treatment the injection of salvarsan was looked upon as an experimental form of treatment, it was not possible, for financial reasons, to treat with the drug all the suitable cases one met. Its use consequently was reserved for those cases in which the disease was unusually severe, of long duration, or recurrent, and of such cases the present series is composed. The series represents 12·5 per cent. of the total number of cases admitted to the Yaws Hospital, St. George's, Grenada, during the year, and includes patients of ages ranging from 4 to 35 years.

The method of preparing the salvarsan for injection was in all the cases a slight modification of that suggested by Taege, and is as follows. The salvarsan was received from the ampoule containing it into a sterilised and dry test-tube, and there emulsified by the addition of 10–12 minims of pure glycerine. Sufficient hot, chemically pure, sodium chloride solution (0·5 per cent.) was added to make the bulk up to 10 c.c. and get the salvarsan into solution. The solution was then received into a sterilised all-glass syringe and so injected. The syringe and needle were for each injection sterilised by boiling, and the skin at the site of injection was painted with a 10 per cent. solution of tincture of iodine.

The point chosen for injection was in all cases that at the junction of the middle and upper thirds of a line drawn from the tuber ischii to the anterior superior iliac spine. After injection the puncture was at once sealed with collodion. The patients were kept in their beds for three days subsequent to the injection, and a four-hourly record of the temperature was made during this period and until the end of the week. A milk diet was given for two days following the injection, after which a full or half diet was allowed.

The usual history was a rise of temperature within the first 24 hours—rarely exceeding 101° F.—together with complaints of pain and "a feeling of tension" at the site of the injection, but both these symptoms generally passed away within two or three days, and no patient in the series remained in bed after the third day. No complications due to the toxicity of the drug were recorded, and no abscess occurred in any case.

Case 27 is of interest as being that of a youth who had previously been injected with salvarsan, 0·3 grm., suspended in olive oil. On that occasion the patient was discharged 69 days after injection. The difference in the time of recovery on the present occasion is no doubt due partly to the larger dose administered and partly to the difference in the rate of absorption caused by the different methods in which the salvarsan was prepared for injection.

Case 42 is also a case of relapse after injection. In this case I believe that the dose administered on the first occasion was insufficient. The age given for this child by the parents was 11 years, but his appearance, owing to his ill-nourished and emaciated condition, was that of a child of five years of age. This rendered the administration of a larger dose than was given on the second occasion inadvisable.

A Series of 45 Cases of Yaws treated with Intramuscular Injections of Salvarsan in 1912.

No.	Age.	×	Recurrent or first attack.	Dose.	Date of injection.	Date of discharge.	No. of days.
1	15	F.	First attack.	0·4 grm.	April 15th	May 14th	29
2	4	,,	,,	0·2 ,,	,,	June 19th	65
3	11	M.	,,	0·3 ,,	,,	,,	65
4	5	,,	,,	0·15 ,,	,,	May 16th	31
5	23	,,	,,	0·6 ,,	May 4th	June 1st	28
6	15	,,	Recurrent	0·45 ,,	,,	May 23rd	19
7	10	F.	First attack.	0·24 ,,	May 17th	July 2nd	46
8	10	M.	,,	0·24 ,,	,,	June 3rd	17
9	4	,,	,,	0·12 ,,	,,	,, 25th	39
10	16	,,	,,	0·48 ,,	June 11th	July 18th	37
11	4	,,	,,	0·12 ,,	,,	,, 3rd	22
12	16	F.	,,	0·48 ,,	,,	,, 2nd	21
13	4	,,	Recurrent.	0·12 ,,	,,	,,	21
14	15	M.	,,	0·4 ,,	,,	,,	21
15	9	,,	,,	0·2 ,,	,,	,,	21
16	15	,,	,,	0·4 ,,	August 27th	Sept. 6th	9
17	7	,,	First attack.	0·2 ,,	,,	,, 16th	20
18	14	F.	Recurrent.	0·4 ,,	,,	,,	20
19	8	M.	,,	0·2 ,,	,,	Sept. 9th	13
20	18	F.	?	0·6 ,,	,,	,, 5th	9
21	35	M.	Recurrent.	0·6 ,,	Sept. 10th	,, 16th	6
22	10	,,	,,	0·2 ,,	,,	Oct. 26th	46
23	7	,,	First attack.	0·2 ,,	,,	Sept. 25th	15
24	6	,,	,,	0·2 ,,	,,	,, 30th	20
25	14	,,	Recurrent	0·4 ,,	,,	,, 23rd	13
26	9	,,	,,	0·2 ,,	,,	,,	13
27	17	,,	,,	0·6 ,,	Sept. 17th.	Sept. 30th	13
28	35	F.	,,	0·6 ,,	,,	,, 23rd	6
29	18	,,	,,	0·6 ,,	,,	,,	6
30	18	M.	,,	0·6 ,,	Oct. 3rd.	Oct 9th	6
31	12	F.	,,	0·3 ,,	,,	,,	6
32	13	,,	,,	0·3 ,,	,,	Oct. 26th	23
33	11	M.	,,	0·3 ,,	,,	Nov. 7th	35
34	13	,,	,,	0·3 ,,	,,	Oct. 9th	6
35	14	F.	,,	0·4 ,,	,, 15th	,, 26th	11
36	8	,,	,,	0·2 ,,	,,	Nov. 29th	45
37	15	M.	First attack.	0·4 ,,	,,	Oct. 26th	11
38	8	,,	Recurrent.	0·2 ,,	,,	,,	11
39	11	F.	First attack.	0·3 ,,	,,	Nov. 8th	24
40	5	,,	,,	0·2 ,,	,,	Dec. 4th	50
41	15	,,	Recurrent.	0·4 ,,	,,	Nov. 12th	28
42	11	M.	,,	0·2 ,,	,,	,, 13th	29
43	10	F.	,,	0·2 ,,	,,	Oct. 26th	11
44	7	M.	,,	0·2 ,,	,,	Dec. 4th	50
45	7	,,	,,	0·2 ,,	,,	Nov. 9th	25

Remarks.—Case 27: Was previously injected with 0·3 grm. salvarsan on May 25th, 1911, and discharged as cured on August 2nd, 1911. Case 29: Had been under treatment in Yaws Hospital for 15 months previous to injection. Case 34: Had been under treatment for four months previous to injection. Case 38. Had been under treatment for seven months previous to injection. Case 42. Was previously injected with 0·15 grm. salvarsan on April 15th, 1912, and discharged on May 3rd. The disease recurred on Oct. 8th.

Cases 29, 34, and 38 were patients who had been in the Yaws Hospital under treatment for 15 months, 4 months, and 7 months respectively, previous to injection, without displaying any improvement or change in the condition of the disease, and each displayed the remarkably rapid action of the drug in this disease. In two previous cases, not included in this series, where injection of salvarsan was made after 17 months and 18 months of previous treatment with mercury and iodides, the condition cleared up completely in 19 and 17 days respectively.

The inference that preliminary treatment with mercury and iodides expedites the action of the salvarsan is not supported by observations made upon cases where these drugs were administered for long periods in the treatment of syphilis, and where salvarsan was subsequently given. The average duration of stay in hospital after injection was 23·6 days, as compared with an average stay of 3½–4 months of the patients not injected. Owing to the difficulty in returning children to their parents the average duration of stay is longer than it otherwise would be, and in this connexion it will be noted that, with one exception, every case remaining in the hospital for longer than 30 days after injection was under 12 years of age.

From an administrative point of view the advantages of this form of treatment are obvious, since, in comparison with a similar number of non-injected cases, the saving effected in dietary alone, after deducting the cost of the drug used in this series, was £75. Still more important, the possibility of completely eradicating the disease from those places in which it exists appears nearer attainment than ever before. This, however, involves the proper segregation of all infective cases, the compulsory notification of the disease, an efficient medical examination of school children, and the refusal to admit cases of yaws into the ports of entry other than through the Yaws Hospital. These measures, in conjunction with this treatment, would aid materially in completely eradicating the disease from any community, and the time occupied in completing the process would depend upon the size of the country and the efficiency with which the measures suggested were enforced.

I do not overlook the fact that cases do exist in which the administration of the drug is dangerous, and for these the treatment with mercury and iodides would still be needed. The pathological conditions which contraindicate the use of salvarsan are such as can be made out clinically, and therefore the risk attendant upon its use can be reduced to a minimum. This minimum would include those cases in which a natural intolerance of arsenic exists, and of such cases I have met two, both previous to the present series.

It has been suggested that the intravenous injection of the drug would secure more satisfactory results than those obtained by the intramuscular method, but in view of my own experience, the increased risk attendant upon the intravenous method, and the need for skilled nursing subsequent to injection by that method, I do not consider that the added danger would be compensated by the slight and problematical improvement in the statistics.

PRESENTATION TO A VETERAN MEDICAL MAN.—Dr. Richard Vernon, of Audley, who is now in his ninety-seventh year, was lately the recipient of an illuminated address as an expression of the regard in which he is held by the Wesleyan Methodists in that district. The address set forth that during 60 years Dr. Vernon had exerted a helpful influence upon the whole parish and district of Audley, and that his unstinted generosity had laid the Wesleyan Methodists under a special debt of gratitude.

CHRONIC POLYORROMENITIS (MULTIPLE SEROSITIS) SIMULATING INTRATHORACIC GROWTH.

BY REGINALD G. HANN, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient whose illness I record presented during life a clinical puzzle of great difficulty, for as time went on it became clear that the diagnosis originally and confidently made of intrathoracic growth must be wrong, though it was not easy to offer any other explanation of symptoms so diverse as laryngeal stridor, exophthalmos, pigmentation of the skin, and ascites; the absence of a reliable history was an additional handicap. Rolleston[1] mentions a case in St. George's Hospital diagnosed as mediastinal growth, but most cases have probably been mistaken for portal cirrhosis of the liver.

An unmarried woman, aged 41, of weak intellect, and in very poor circumstances, was first seen in March, 1908, complaining of swelling of the feet and enlargement of the abdomen of about a month's duration. Her friends said she had never been robust and was always very thin; during the past week she had become so ill and short of breath that she was obliged to keep her bed; she had constant pain in the right side of the chest. Up to six months ago they maintained that she had shown no signs of illness except for some swelling of the feet two years ago. There was no history of alcoholism.

Condition on March 11th, 1908.—Considering the short duration of the symptoms and the fact that the patient had only been confined to bed for a week, her appearance was most striking. She was extraordinarily thin, her skin was dark and dirty-coloured, with deeper and more definite pigmentation about the axillæ, nipples and pubes, and in parts of the abdomen. There was protrusion of the eyeballs, more evident on the right side; the face and neck were puffy and cyanosed, the lips and ears being especially dark. The veins of the face, neck, and about the right shoulder were enlarged, and the external jugular, in which the engorgement was especially great, did not empty on inspiration. Respiration was rapid, with some indrawing of tissues of the lower part of the neck. The *cyanosis* was least when lying upon the right side and most when sitting up, especially if leaning forward. There was constant inspiratory stridor; no affection of voice; no difficulty in swallowing. She had at no time any cough or expectoration. The right axillary glands were easily felt; with this exception none could be detected above the clavicles or elsewhere. There was little or no movement at the base of the right lung, the chest wall being manifestly flat. The base posteriorly was dull, and this dulness extended in front to the level of the fourth rib; it was continuous to the left with the cardiac dulness and below with the hepatic dulness. Over this area there were no breath or voice sounds; above it in front a few adventitious sounds were heard, apparently in compressed lung. The left lung seemed normal. The heart was certainly not displaced to the left, but the apex was low. Sounds somewhat muffled, conducted well into the right axillary line over the dull area; second sound reduplicated; no bruit. The abdomen was considerably enlarged; the shape suggested an ovarian tumour; much free fluid was present. Nothing else abnormal to be felt. The appetite and digestion were good; the bowels were normal. The menses were regular and profuse. There was no jaundice or fever. The urine was normal. A diagnosis was made of intrathoracic growth occupying the space and displacing the lung between the heart and the upper surface of the liver, with a secondary *mediastinitis* accounting for the interference with the superior *vena cava*. The patient was seen shortly afterwards by the late Dr. E. F. Trevelyan, who agreed with this diagnosis.

Progress of the case.—The patient kept her bed continuously, and at the end of August, 1908, the following notes were made. She was weaker and less able to attend to herself even in bed. There was less prominence of the veins of the head and less cyanosis. Inspiratory stridor unchanged. Thorax: Flattening of the right chest below the nipple line and loss of respiratory movement were more pronounced; there was almost absolute dulness extending downwards from the level of the third rib with entire absence of air entry. Behind there were dulness and absence of air entry up to the level of the scapula; it suggested fluid, while in front the signs suggested solid tissues. An X ray examination showed a dome-shaped shadow at the right base with loss of movement of the diaphragm on respiration. Abdomen: The ascites had gradually diminished until it was no longer possible to detect fluid. The liver, which could not be felt five months ago even by "dipping" with the finger tips, now extended down almost to the anterior superior iliac spine; surface smooth, not tender, its edge was sharp. In October, 1908, the edge of the liver was at the level of the umbilicus, and it gradually receded until it could only just be felt, and so it remained until her death. Undoubted and general improvement, slight though it was, slowly took place, and for the next three years she was able to leave her bed and often to get about the house. Her chief complaint was of abdominal pain; at times it was clear that there was some ascites, and more rarely the feet were œdematous. She was always very weak and soon tired, and she never gained weight. During 1912 her condition changed steadily for the worse, and she was bedridden. Almost the only change in physical signs was an increase in the ascites necessitating a tapping on Oct. 7th, 1912, when 16 pints of clear straw-coloured sterile fluid were withdrawn; the pathological report said this appeared to be inflammatory in origin rather than a passive exudation. The fluid re-collected and a similar quantity was removed on Dec. 28th, 1912, and again on Feb. 21st, 1913, when it was blood-stained. The enlargement of the abdomen quickly returned, but was chiefly due to gross flatulent distension of the intestines, and an attempt on June 3rd to find fluid by puncture failed. The patient died on July 1st, 1913.

Dr. J. P. Bibby performed the limited examination which was permitted, of which the following notes are given.

The right pleural cavity was completely obliterated. The parietal pleura, which was firmly adherent to the visceral pleura, was everywhere thickened, this being greatest over the lower lobe, where the membrane was a quarter of an inch thick and of the consistence of cartilage. At the extreme lower part it was puckered and dipped into the lung tissue. Left pleura: Considerable amount of straw-coloured fluid in pleural cavity. One adhesion only, this being a well-marked one at the extreme apex of the upper lobe where the visceral pleura over an area the size of a shilling was thin, white, and cartilaginous. Right lung: Upper lobe normal; lower lobe shrunken, airless with, above, some bronchiectasis. Left lung: Upper part normal; lower and posterior parts congested and airless. Œsophagus: No engorgement of veins. The bronchial glands were small, discrete, tough, black (deposit of carbon). The pericardium was firmly adherent to the heart except for a circular area about 1¼ inches in radius at the extreme apex. Most of the anterior and posterior walls of the pericardium consisted of long calcareous plaques of varying thickness, the condition being most advanced on the posterior surface; the base of the heart might be said to be enclosed in a rigid case. But for adhesions these changes were confined to the visceral layer of pericardium. There was advanced mediastinitis. The liver was small and showed no thickening or opacity of the peritoneal covering. The surface of the liver was finely granular. There was an increase in its connective [illegible] except in one small area; stripped with difficulty, leaving definite granular surface. Cortex narrow; good deal of fat about pelvis. The peritoneal cavity was practically obliterated so that the hand could not be inserted owing to the dense and universal adhesions. A microscopic examination revealed no traces of tuberculous disease.

The essential mistake made in attempting to arrive at a diagnosis in this case lay in the misunderstanding of the meaning of the signs at the base of the right lung. There the signs seemed undoubtedly due to the presence of a solid tumour with a well-defined and rounded upper surface, and it was the effort to explain all else upon this basis, together perhaps with the latency of the pericarditis, which led to an entirely erroneous diagnosis.

With regard to the duration of the disease, it seems safe to assume that the swelling of the feet noticed by the woman two years before she came under observation was an inaugural symptom of the polyserositis, so that her illness must have extended to seven or eight years. This is considerably longer than the average of about four and a half years in 36 cases extracted from Kelly's[3] list. Again, if this œdema is rightly explained by a transitory myocardial inefficiency due to the presence of pericarditis, it points to the pericarditis being an early, if not the earliest, morbid change—a form of the disease to which Kelly in particular has drawn attention.

The consideration of the ascites introduces one of the most interesting features of the disease. It has been explained variously as due to: 1. Interference with the venous return from the abdomen by changes caused (*a*) by the perihepatitis, or (*b*) by the "cyanotic induration" of the liver. 2. Myocardial incompetence following the pericarditis; comparable to the ascites occasionally seen before general œdema in failure of compensation following chronic disease of the heart. 3. Chronic peritonitis.

In proof of the first of these suggestions little or no post-mortem evidence has been offered, the second must be very unusual, and it is the third, largely owing to the writings of Hale White, which has become commonly adopted. Without hesitation I regard the chronic peritonitis as the cause in the case here described, for with the peritoneum deeply involved and ascites (present, by the way, in each of the stages of enlargement and recession of the liver) an outstanding clinical feature, there was no perihepatitis. Hale White[4] has seen two cases in which with universal perihepatitis and no chronic peritonitis there was no ascites; in my case there was no perihepatitis but chronic peritonitis and ascites.

The chronic form of polyorromenitis has been ascribed to infection by the tubercle bacillus (Picchini,[5] &c.), but there is singularly little published evidence in favour of this theory. Acute rheumatism with its proclivity for causing effusions would seem a likely cause, and such cases have been observed.[6] In the present case no evidence on this point is available.

There is little to say about the treatment of this case. Large doses of potassium iodide were given during the first year, and I was convinced that some good ensued. Whether any advantage would have been gained by earlier and repeated tapping of the abdomen is doubtful, and it is unlikely that it would have delayed the end.

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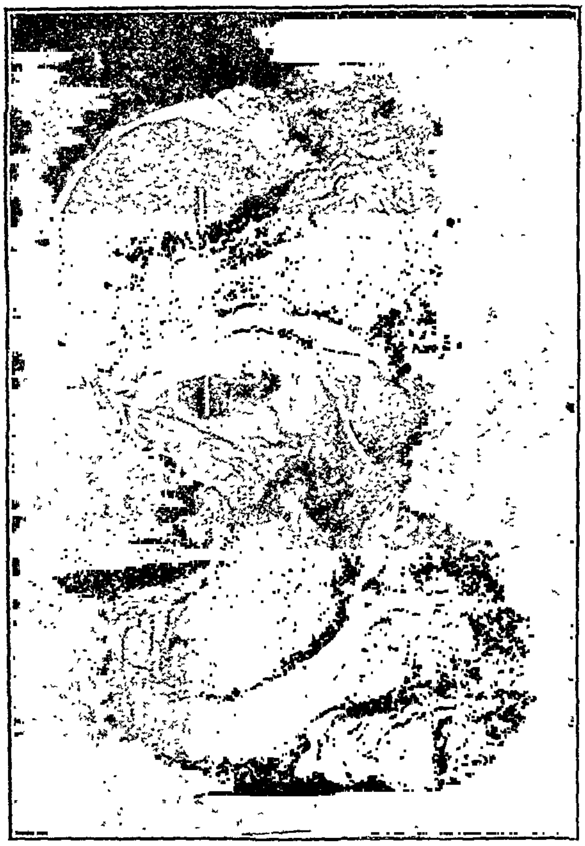
Leeds.

I made a necropsy about 40 hours after death, in a very poor light and in very unsuitable surroundings. The body was covered with vermin. There was some œdema of the legs. The meninges of the brain were thickened and the convolutions atrophied. The pleural cavities were everywhere obliterated from old pleurisy, and the pericardium was also adherent throughout. The myocardium was pale and flabby and the mitral orifice incompetent. At the posterior part of the left ventricle, about halfway between the apex of the heart and the base of the ventricle, there was a small communication with the cavity of the stomach, through which a small glass rod could be passed, as shown in the figure. In this region the heart, pericardium, diaphragm, and stomach wall were firmly adherent together. It was quite impossible to separate any of these structures one from another. The left ventricle itself was quite empty; there was no sign in it of any stomach contents. On opening the stomach its cavity was found to be nearly filled by a large blood cast, but there was also some meat. The blood in the stomach was one large firm clot, but down the whole of the rest of the alimentary canal fluid blood was found. There were some perisplenitis and perihepatitis. The aorta showed well-marked atheroma. Dr. H. Heathcote has kindly made sections of portions of the heart muscle for me, and examined them for fatty changes. With regard to sections through the left ventricular wall he reports that there was an excess of leucocytes in the epicardium, that there was some fatty infiltration of the muscle, and a good deal of yellowish-brown pigment in the cells. In the papillary muscle he found some fragmentation of the myocardium, and (staining with charlach R and hæmalum) a diffuse purplish-pink staining of the fibrous ends of the papillary muscle at the attachment of the chordæ tendineæ, probably indicating fatty deposit.


From a photograph showing the site of the perforation.

The ulcer of the stomach was of the size of a half-crown. Its edge was slightly raised owing to firm adhesions to the subjacent structures which had filled in the gap in the stomach wall by a false wall consisting of the structures which naturally lie between this point and the heart wall. Its floor was therefore deep and crateriform, and soft as compared with the true stomach wall. The exact position of the ulcer was on the anterior wall of the stomach near to the lesser curvature, the edge being an inch from the right edge of the cardiac orifice. The distortion of the stomach owing to the adhesions was very great, and in the photograph it has perforce been accentuated, owing to the difficulty experienced in bringing both the ulcer and the opening into the heart into suitable positions to show in the same view. The greater curvature has been turned upwards and to the left, while the lowest portion of the œsophagus and the cardiac orifice appear in the figure to the right of the ulcer.

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Manchester.

THE HEALTH OF BIRMINGHAM.—The medical officer of health's report for the third quarter of this year records a birth-rate of 26·8 per 1000, a slight increase on the rate in the same quarter of the two preceding years. The death-rate was 14·0 per 1000, a higher rate than in the corresponding quarter of some recent years, though lower than in any year prior to 1907. In 1912 the death-rate was 10·9; in 1911, 16·0; and in 1910, 10·9. Increases occurred in the death-rates from diarrhœa and enteritis, cancer, pneumonia, diseases of the heart, infantile debility, cerebral hæmorrhage, bronchitis, whooping-cough, non-pulmonary tuberculosis, Bright's disease, and premature birth, whilst decreases were recorded for measles, pulmonary tuberculosis, and old age. Eight of the great towns of England had a higher death-rate and seven a lower. The infantile death-rate was 161 per 1000 births as compared with 91 in 1912 and 238 in 1911. The principal cause of the increase was the prevalence of diarrhœal disorders. Up to three months of age about 82 per cent. of the babies in Birmingham are breast fed, and the mortality among these from diarrhœa and enteritis was 4·7 per 1000, whilst among the bottle-fed babies or partly bottle-fed it was 95·5 per 1000. 2229 cases of scarlet fever were notified during the quarter, as compared with 1008 as the average in the third quarters of the years 1903–12; 259 cases of diphtheria were notified, the same number as the average; and there were 919 notifications of pulmonary tuberculosis. The elementary school teachers reported 89 cases of measles during the quarter, compared with 862 in the same period last year, and 587 cases of whooping-cough, compared with 232. Scarlet fever was more prevalent than in any third quarter for many years past. The type of disease was mild and the case mortality only 1·7 per cent. The incidence of the disease was more severe in the suburban than central districts. Of the 2229 cases, 1647 were removed to hospital. 762 patients who had applied for treatment for tuberculosis were examined, and of these 423 were recommended for admission to a sanatorium, 260 for dispensary treatment, and 47 for domiciliary treatment. The total of notified cases of tuberculosis numbered 1076.

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION OF MEDICINE

Non cancerous Tumours of the Stomach —Calcareous Deposit on a Fish Bone in the Parotid Duct —A Change in the Pelvis in Prepuberal Atrophy of the Testicles —Combined Sclerosis of the Spinal Cord with (?) Dystrophia Adiposo-genitalis

A MEETING of this section was held on Nov 25th, Dr SAMUEL WEST the President, being in the chair

Dr A M GOSSAGE and Dr J A BRAXTON HICKS described two cases of Non cancerous Tumour of the Stomach (one a fibromyoma and the other a fibrosarcoma) and showed specimens Both patients had been admitted into hospital when too ill for surgical intervention, though the removal of the tumours should have been easy The condition was not diagnosed during life Death occurred in each case from hæmorrhage into the stomach the tumours being submucous though hæmatemesis had proved an uncommon cause of death in this class of gastric tumour The patients were adults in middle life, one a male and the other a female

Dr G NEWTON PITT showed a case of Recurrent Distension of the Parotid Gland due to Calcification round a Fish bone retained in Steno's duct for over a year The patient was a man, aged 58 who over a year ago complained that a fish bone had stuck in his throat He referred the discomfort to the pharynx and nothing could be discovered on careful examination The symptoms had disappeared, but from time to time there had been discomfort with recurrent distension of the right parotid, which latterly had become more marked Sir W Arbuthnot Lane had seen him and thought that there was a calculus in the duct An X ray picture showed an elongated slender curved shadow in the line of the duct behind the edge of the masseter, and this was slightly bifurcated in front Exploration from inside being ineffectual the gland was cut down upon and no calculus could be discovered, but the duct appeared to be thickened and atheromatous A tube was passed down the duct and out of the mouth, and the wound closed It had healed, but the gland remained very distended from time to time, and finally on the twelfth day the tube came out, and two days later the wound broke down On the eighteenth day an elongated shell of bone was extruded, which corresponded to the shadow, and had formed round a fish bone 12 mm long the anterior end of which was bifurcated and hence had been unable to move except up towards the gland The wound then healed up as generally happened when the body was removed Dr Pitt said that foreign bodies in the salivary ducts were rare, only between 50 and 60 cases being recorded, 27 having been found in Wharton's duct, 19 in Steno's, and 2 in the sublingual Straw or blades of grass were found 14 times, fish bones 7, bristles 6, ears of corn 5 feathers 3, fruit seeds and splinters twice, and a piece of a tooth pick, a hair, a shot, and a piece of chestnut each once The onset might be obscure and the symptoms not severe, at other times they were very acute, especially when the gland suppurated

Dr BATTY SHAW and Mr R HIGHAM COOPER com [illegible] short paper on a case of Combined Sclerosis of the Spinal Cord with (?) Dystrophia Adiposo genitalis The patient, a Polish Jew, aged 5 years, was the second of three children, the others being unaffected He was a very fat boy, with olive complexion, black hair, and dark almond shaped eyes The genital organs were very undeveloped His disposition was bright, cheerful, and intelligent Speech was unaffected The cranial nerves were normal No nystagmus was present The arms were not affected The legs were spastic and ataxic, the knee jerks being very glib Ankle clonus was present on the left side and the plantar reflex was extensor on both He could not stand alone or walk Sensation seemed unaffected His sense of posture was very defective There was incontinence of urine The optic discs were pale and their edges sharply defined The fundus was pigmented No hemianopia was present Mr Gilbert Scott reported that a skiagram showed that the pituitary fossa was shallow and ill defined This did not suggest pituitary tumour but increased intracranial pressure The history was as follows Diphtheria preceded by frequent convulsions occurred at the age of 16 months Since then the patient had been liable to attacks of malaise in which he refused to eat "went very yellow," had a cough, and slept heavily Between the attacks he seemed well He had attended many hospitals At one hospital he was said to have something wrong with his lungs Subsequently at another hospital about eight months ago he had bronchitis, nephritis, and symptoms suggesting a cerebellar tumour Since this time he had been unable to walk Soon after this he was admitted into a third hospital, where an operation for a tumour in the head was recommended, but permission was refused by the parents Inability to walk had persisted and there had been incontinence of urine and occasionally of fæces The parents thought that the left arm and leg had become weak also

SECTION OF ELECTRO THERAPEUTICS

Technique and Standardisation of Bismuth Meals

A MEETING of this section was held on Nov 21st under the presidency of Mr C THURSTAN HOLLAND, when a discussion took place on the Technique and Standardisation of Bismuth Meals

Dr REGINALD MORTON, in introducing the debate, said it was the outcome of a paper by Dr A F Hertz at the last annual meeting of the British Medical Association, when a resolution was adopted in favour of the establishment of a standard meal for radiographic examination The data which he had collected from various radiologists with a view to this debate showed that, within reasonable limits, the exact quality and quantity of the meal did not greatly signify But the great object was to arrive at results which were comparable The meals now being given ranged from 5 oz, containing 2 oz of bismuth, to a 20 oz meal containing 1½ oz of bismuth On only one point did there seem to be agreement—namely, that the meal should be as palatable as possible As to quantity, those who used a meal of 20 oz admitted that it was difficult to get the whole of it consumed Quite half those he had written to used a 10 oz meal, and the amount of bismuth or barium was from 1 to 4 oz, the average being 2 oz The quantity of opaque salt was more important than the percentage it bore to the whole meal Only a minority of practitioners definitely preferred barium to bismuth but two or three times as much of the latter was required to produce the same degree of opacity He was anxious to know what happened when the residue of a barium meal became "banked up" in the last few inches of the ileum, especially as the tissues of those who came for examination were soft and flabby A well known firm of chemists had succeeded in producing a light form of bismuth carbonate, so light that it remained suspended in water for a considerable time, and it seemed to cause as dense a shadow as the ordinary carbonate He hoped to hear about the relative influence of bismuth and barium on peristalsis It was said that bismuth carbonate completely neutralised the gastric juice, which of course, was not desirable, but he had not heard this objection urged against oxychloride of bismuth There were differences in the acuity of visual perception among observers, so that what was plainly seen by one might not be evident to another Two ounces was the quantity of bismuth used by most radiologists and it was the average of those to whom he had written Two thirds of the replies spoke of bread and milk as the medium of suspension, others used porridge, blanc mange and jelly, or in an emulsion of lactose In France gum solutions were much used for the purpose, and in America thick buttermilk It seemed to be agreed that the consistence should be that of porridge His own idea of a standard meal would be Into the bowl from which the meal was to be taken was placed 2 oz of white bread (without crust) cut into cubes the size of dice Eight ounces of boiled milk into which had been stirred 2 oz of bismuth carbonate or oxychloride (or 3 oz of pure barium sulphate) would be added, and after sufficient cooling sugar added to suit. There was a great difference of practice in the matter of the preparation of the patient, but he hoped a spirit of compromise would reduce that to a good working rule. He would order an aperient to be taken 36 hours before the examination, and the rectum cleared out with an enema early on the morning of the examination, the bismuth meal being given in place of the ordinary breakfast. Except in special cases the patient should continue his regular meals, but no meals should be taken within four hours after the bismuth. After the meal reached the large intestine it was practically impossible to work to a time-table, but the practice of his correspondents had been to examine at 2, 4, 6, 12, 24, and 36 hours. He concluded by moving that a committee of the section be appointed to deal with the subject, to which Dr. Hertz should belong, owing to the amount of work he had done on the matter.

Dr. A. F. HERTZ sent a communication which was read by the Secretary. In it he said that large doses of bismuth subnitrate ought never to be employed for X ray examinations, as that salt might cause severe poisoning. On several occasions such poisoning had ended fatally. Neither was bismuth carbonate a suitable preparation for these investigations; it had a depressing effect on gastric peristalsis. Bismuth oxychloride was the only salt of bismuth which was chemically inert in the stomach. Barium sulphate had been proved to be as efficacious as bismuth in rendering stomach and intestines visible to X ray examination. Owing to distortion caused by large doses of a heavy salt the aim should be to secure the smallest dose which would give a clear view of the organ. He was in the habit of using 2 oz. of barium sulphate, though that must be increased for adipose patients. The total meal without the barium was 4 oz. It was most important that the meal should be palatable and well made. Only after the colon had been properly emptied could the activity of the whole tract be properly investigated. Aperients should be discontinued for at least 48 hours before the first examination. Each morning the patient should try to evacuate the bowels naturally, and he should continue his ordinary diet, so that the normal condition of his alimentary tract could be investigated. In cases of severe constipation it was sometime necessary for the examination to extend over five consecutive days.

A number of members discussed the subject and detailed their own practice.

At the conclusion of the meeting the following were appointed to constitute a committee on the subject: Dr. Hertz, Dr. Morton, Mr. S. Gilbert Scott, Dr. A. E. Barclay, and Dr. A. C. Jordan, with power to add to their number. Dr. Morton was chosen convener.

SUBSECTION OF ORTHOPÆDICS.

Presidential Address.

A MEETING of this subsection was held on Nov. 4th, Mr. E. MUIRHEAD LITTLE, the President, being in the chair.

After welcoming his hearers to this the first scientific meeting of the newly established subsection, which might have existed from the beginning had the British Orthopædic Society, founded in 1894, survived until the formation of the Royal Society of Medicine, the PRESIDENT said that the history of orthopædics could be divided into three periods—namely: (1) the pre-operative, before Stromeyer; (2) the subcutaneous, from Stromeyer to Lister; and (3) the present period of free operation by open and subcutaneous methods. In the seventeenth century, although the name of this specialty had not been invented, there was a very flourishing orthopædist at Utrecht, in Holland, one Skatt, or Schacht, or Scott, who had a large practice in the treatment of crooked limbs and backs. One of his patients was Edmund Verney the younger, an account of whose case and of Skatt's treatment would be found in the Verney Memoirs. But it was to Dr. Nicholas Andry, professor of medicine in the Royal College and senior dean of the Faculty of Physick at Paris, that we owed the title of this branch of surgery, for in 1741 he published "Orthopædia, or the Art of Correcting and Preventing Deformities in Children by such Means as may Easily be put in Practice by Parents themselves and all such like as are Employed in Educating Children." An English translation of the book appeared in London in 1743. In the preface the author wrote: "As to the title, I have formed it of two Greek words—viz., ορθός, which signifies straight, free from deformity; and παιδίον, child." He had much to say about two previous works by other authors, from one of which he got the idea of its title. This was the Callipædia of 1656, a Latin poem by the Abbé Claude Quillet, on the art of getting beautiful children. Quillet (who himself was deformed) denounced marriages of interest, and his views foreshadowed the eugenics of to-day, despite some absurd theories. The other work, "The Pædotrophia," was also in Latin verse, on the manner of bringing up and nourishing young children. The author was Scevole de Sainte-Marthe, and his book, published in 1584, went through ten editions in his lifetime and as many after his death, and "was translated into a great many languages and even into French verse." Andry's book, the President said, was a popular one. Hardly any apparatus was mentioned in it, and technical terms and the reproductive organs were avoided. While he showed evidence of strong common sense, he was not beyond his times in a belief in many useless preparations, and he relied on gentle intermittent pressure and supposed emollient applications without operation or apparatus to cure structural deformities such as wry-neck. Rickets was to be cured by a fern-leaf bed, by causing violent muscular movements, by cold affusion, and in some cases by tickling the soles of the feet. Wounds of the shoulder, he said, caused "loss of volubility of the tongue because the hyoid bone was connected with the shoulder by a muscle" (the omohyoid?). But one need not be hard upon Andry because of his limitations. He was a physician, not a surgeon, and was careful to avoid what he described as the province of the surgeon. Not much was known, the President continued, of the mechanical orthopædists of the eighteenth century. Notable among them in this country was Robert Chessher, referred to by George Eliot in "Middlemarch." He was a surgeon of good repute and great ingenuity, who was born at Hinckley in 1750, and after being house surgeon to the Middlesex Hospital practised in his native place. He invented the double inclined plane for fractures in the lower extremities, and many other appliances for deformities and injuries, so that "Mr. Chesser and his irons" became famous. He seems to have been a modest and retiring man, who did not publish anything, and little is known of his methods. He died, aged 80, in 1831, just before the discovery of subcutaneous surgery. Another name which has survived is that of Timothy Sheldrake, "of the Strand, truss-maker to the East India Company and the Westminster Hospital," who between 1783 and 1806 published several medical pamphlets on distortion of the spine, club-foot, and rupture. He was, however, of a class very different from Chesser's, and of that type of advertising tradesman which is always with us. But to such, until Stromeyer's time, the care of deformities was mostly relegated. The names and work of the workers who followed in Stromeyer's footsteps were familiar. When Lister had rendered open operations safe and nearly painless, the scope of orthopædic surgery widened vastly, and new and daring methods of treating deformities became feasible. This progress was still going on, and if in some procedures the risk to the patient seemed to outweigh the prospect of improvement such experiments increased one's knowledge and led to further advance. In the hospitals of the United States there was a tendency to enlarge the list of affections to be referred to the orthopædic surgeon. Some vexed questions concerning the subjects selected for discussion by the Council of the Orthopædic Subsection of the International Congress of Medicine this summer were by no means there fully answered. The true value of arthroplasty, of certain methods of treating scoliosis, Pott's disease, and spastic paraplegia remained still to be established, and they might look forward to much useful work being done in regard thereto by this subsection. Personally, he hoped that the meetings of the subsection would be largely clinical, for they were all apt to find themselves forced to work in closed compartments, and this subsection should be able to break down some of the partitions by encouraging the exhibition of actual results. An important part of orthopædic work related to curative, retentive, and supporting appliances, and the relations between the orthopædic surgeon and the manufacture and supply of instruments to his patients might be usefully considered. The question held difficulties, but it should not be shirked.

MEDICAL SOCIETY OF LONDON.

Exhibition of Clinical Cases.

A MEETING of this society was held on Nov. 24th, Sir DAVID FERRIER, the President, being in the chair.

Dr. JOHN GAY showed a case of Hæmorrhage from Both Breasts in an unmarried woman, aged 35 years, who had always had good health till her present illness. She had had no serious illness since a child, but had suffered from epistaxis from time to time; menstruation had always been considerable in quantity but regular. She had never suffered from any excessive hæmorrhage after cuts or tooth extractions. Her father died as the result of an accident. Her mother had died at the age of 30 from "some hæmorrhage." She had neither brothers nor sisters. The present condition commenced about March, 1912. She had had quite severe hæmorrhages from one or both breasts, often saturating her clothes and the thick pads placed for their protection. It occurred quite irregularly and had lasted on and off for two or three months at a time. There had been none since September, 1913 The menstrual periods were usually regular, but during this condition of bleeding she had missed two months. The periods were now regular again. Also, the epistaxis had not occurred since the occurrences of the bleedings. There appeared to be no disease of the uterus, ovarian, or other organs. The urine was normal. A blood count gave the following: Polymorphonuclears, 52 per cent.; lymphocytes, 44 per cent.; eosinophiles, 2 per cent.; large mononuclears, 2 per cent. No abnormal red or white cells were seen in counting 250 leucocytes. Calcium lactate and chloride had no effect. Turpentine and sea air caused some improvement.

Dr. ROBERT HUTCHISON showed a case of Hypertrophic Biliary Cirrhosis with Splenomegaly. The patient, a girl aged 4½ years, was admitted on Sept. 2nd, 1913. She was an eight months' child and always delicate. When 14 days old she became jaundiced; this lasted a month. Two days before she was exhibited she became very "yellow" and had frequent pale stools. There was no history of alcoholism. Both parents were alive and healthy. There were four other children, three dead (pneumonia; appendicitis; diarrhœa) and one (a baby) healthy. None had had jaundice. No miscarriages had occurred. She was a fairly nourished, rather stunted child, with marked icterus, and venous stigmata were present on the face. The liver was three fingers' breadth below the costal margin and was smooth and firm. The spleen reached half way to the umbilicus. There was no ascites. The thoracic organs were normal. The fingers and toes were clubbed. The urine contained bile pigment. Blood: red cells, 5,300,000. Hæmoglobin, 75 per cent. Colour index, 0·7. White cells, 4800. The differential count was normal. Fragility of the red cells was not increased. The patient's serum had no hæmolytic power on normal red cells. The Wassermann reaction was negative in both the patient's serum and that of her mother.

Dr. J. L. BUNCH showed a case of Papulo-necrotic Tuberculide. The patient, a boy aged 13, had attended Dr. Bunch's department at the Queen's Hospital for Children for the past six years. He first developed a skin eruption at the age of 4, which began as a single red patch near the navel, on which small red nodules showed themselves later. The nodules were slightly raised, somewhat papular in character, and distinctly infiltrated, but small and apparently quite superficial. They were always succeeded by a shallow scar about ⅛ to ½ in. in diameter. In 1906 there were about 30 of such scars round the umbilicus, and the skin of this area was dry, scaly, and red, and covered with a fine desquamation. On the inner sides of the thighs and for some distance round each axilla was a circumscribed, irregular, superficial pinkish dermatitis, with a similar fine scaliness on the surface. During the past six years the areas which formerly only showed a superficial dermatitis had become covered with a number of small, shallow, atrophic scars, similar to those round the umbilicus, and these latter had persisted. Still more atrophic lesions had also made their appearance on the skin of the abdomen, so that there was a very large number of such scars—so many that they had not been counted. The disease was progressive, for fresh lesions kept on showing themselves, but since the patient had had regular treatment with tuberculin they were less numerous and less marked. It was not easy to be sure that the scars were always preceded by papular, tuberculous lesions, but such papules had frequently been found while the boy had been under the care of Dr. Bunch. The atrophic scarring in any case seemed to be more defined and more extensive than the small papular lesions would have led one to expect. It appeared certain that before any fresh area showed any signs of papules or scars it was for some long period previously invaded by a characteristic, scaly dermatitis, and there was now a very well-marked patch of such a character on the right shoulder, which probably heralded the appearance of the atrophic tuberculide within the next few months. Microscopic examination of an excised papule showed some congestion of the papillary and subpapillary vessels, with marked infiltration of small round cells about the glands and vessels in the hypodermic tissues and the gland-ducts in the corium. Giant-cells were present, but no tubercle bacilli could be demonstrated. In 1906 the boy was an in-patient at the Queen's Hospital for Children for six weeks, and was given a course of small tuberculin injections. These, however, failed to arrest the disease, and, in fact, some tuberculous lesions subsequently made their appearance at, or quite near to, the sites of some of the injections. Recently the patient had had two courses of tuberculin treatment, this time using Rosenbach's tuberculin, with an interval of five weeks between the two courses. The injections were given at weekly intervals, commencing with an initial dose of 0·01 c.c., and gradually increasing it up to 0·75 c.c. These doses were considerably smaller than those recommended by Rosenbach himself, but even the larger dose in this case was followed by a rather excessive reaction. Some of the erythematous skin area had been X-rayed in order to determine whether such treatment would prevent the subsequent development on these areas of the necrotic papular tuberculide, but it was still too early to say whether this would be the case.

Dr. BUNCH also showed a case of Linear Lichen Planus developed on the site of an injury. The patient was aged 27, and some four months previously a few spots appeared on the right elbow, which gradually coalesced to form a somewhat purplish patch, with a slightly scaly surface. This patch was at one time thought to be psoriasis. Later on the patient had developed some papules on the nape of her neck and on the front of the right wrist, which gradually increased in number and extent until she had several localised patches slightly raised above the surface and of a reddish tint. Some six weeks before, she had scratched the anterior surface of her left forearm with a dust-pan and on the site of this scratch a line of typical lichen planus papules developed. When first seen, three weeks ago, these papules showed an irregular outline, with a flat, shiny surface, with, in some instances, a tendency to a slight central scaliness. They were still present, but were not quite so bright in colour as they had been. During the last three weeks the patches on the right wrist had lost much of their purplish tint and had become rather a dusky brown. The lesion on the right elbow was still scaly and had some resemblance to a patch of psoriasis. Some lichen planus lesions on the buccal mucous membrane had disappeared under treatment. Having regard to the generally accepted view that lichen planus was not contagious and that fresh lesions did not appear as the result of inoculation, Dr. Bunch thought that some interest was attached to the fact that the linear patch on the left forearm developed exactly in the position of the scratch mark already described.

Dr. REGINALD C. JEWESBURY showed a boy, aged 5 years, who for a period of nine months had suffered from a Right-sided Pneumothorax which for all that time had been under great pressure and at no time had any effusion been present. The mode of onset was not known and it was first discovered when he was brought up to hospital for dyspnœa which had developed since his recovery from an attack of scarlet fever. The chest was aspirated on one occasion and air escaped under great pressure, but the condition did not improve after this. The affected lung had quite lately become fully expanded within a period of 14 days and the chest presented no abnormal physical signs and the boy was quite well. The patient was shown at a previous meeting of the society when the pneumothorax was present. Radiograms were shown demonstrating the pneumothorax and the condition of the chest since recovery. The main points of interest in the case were first of all the age of the patient (5 years), for this condition was very rare in children; secondly, the fact that no effusion occurred whatever; and, thirdly, apparently complete recovery of the lung which had been completely collapsed for so long a time. The cause was uncertain, but probably due to some small tuberculous focus in the lung which had healed.

Dr. S. A. **KINNIER WILSON** showed a case of Bilateral Cervical Ribs to illustrate the diagnosis between that condition and progressive muscular atrophy. The patient presented the characteristic wasting in the thenar eminence, which, he said, was almost pathognomonic of the condition. The wasting was confined to the abductor pollicis, opponens pollicis, and part of the flexor brevis pollicis. In progressive muscular atrophy the wasting was a global one—i.e., it involved the eminence as a whole; and the contrast between the wasted and non-wasted parts was never seen in that disease as it was in cases of cervical rib.

LIVERPOOL MEDICAL INSTITUTION.

"Lane Kink."—Appendix Abscess.—Influences of the Venereal Diseases.

A MEETING of this institution was held on Nov. 20th, Mr. **ROBERT JONES**, the President, being in the chair.

Mr. F. A. G. **JEANS** read a note on the "Lane Kink." He could not agree with the theory that this condition was due to the upright position. He had never met with it except in association with appendicitis. Where the ileum was kinked he had found that division of the band of adhesion released the ileum, and the lozenge-shaped space so formed was sutured, and reformation of the band was prevented by getting the bowels moved early and keeping them released.—Mr. F. T. **PAUL** agreed with Mr. Jeans's view of the causation of the kink, and considered there was no warrant for extensive operations such as had been recommended.

Mr. G. P. **NEWBOLT** read a note on a case of Appendix Abscess in which there were continued rigors and high temperatures for some weeks after the abscess had been drained and washed out. A vaccine had been made, the discharge having been found to contain an enterococcus which could not be identified. The patient made a complete recovery, which Mr. Newbolt had no doubt was due to the vaccine.

Dr. C. J. **MACALISTER** read a paper on Influences of the Venereal Diseases. He spoke of the power exerted by public opinion, citing the changes that have taken place as to the use of alcohol, as to the housing of the poor, and the use of the individual cup by some Nonconformist bodies in their Communion service. He went on to speak of the part that Dr. W. Carter and Dr. Birkbeck Nevins, both past presidents of the society, had taken in the repeal of the Contagious Diseases Acts in 1886. It was proved that these Acts did not lessen the evils they were supposed to remedy. At the same time, they caused a lessened sense of responsibility from Government recognition of immorality. Dr. Macalister thought that other countries would follow the lead of England in giving up such regulative systems. Army statistics showed that when these regulations were rescinded there was a progressive decrease in disease. Education was making the soldier more moral and temperate. With regard to the general population, it seemed evident that no substantial decrease in the disease was occurring, and a growing number of diseases which were not formerly considered to be syphilitic in origin were now definitely proved to be due to that infection. Dr. Macalister alluded to the fact that proofs were forthcoming that there were occult forms of syphilis, that the results of the infection were far more widespread than was imagined, and that a considerable number of diseases which were not previously known to be associated with syphilis were due to it, as in some cases of mental deficiency and of epilepsy. Again, it had been shown that congenital heart disease, some gynæcological conditions, many diplegias, and cases of paralysis were due to syphilis. Dr. Macalister was with Dr. F. Wilson investigating cases of fibroid bronchiectasis and finding the spirochæta. General paralysis of the insane had been proved to be syphilitic in origin. Gonorrhœa had been proved to be one of the gravest dangers to which womanhood was subjected. Dr. Macalister appealed to the medical profession as a whole to lend all their influence to educating the public, so that they could understand how these diseases not only brought trouble to individuals, but were interfering with labour, were costing money in the provision for the suffering patients rendered unfit to earn a livelihood, and causing deterioration of the race. He pointed out the difficulties of notification until the public had been sufficiently educated. When that had been effected they could go on to the effective segregation of carriers, certification as to fitness for marriage, and other measures for stamping out the plague.—In the discussion that followed Dr. E. W. **HOPE** said that the history of the Contagious Diseases Acts taught them what to avoid, and he thought that in order to give practical and effective assistance in curing the evil the institution should render every help to the Royal Commission. He proposed that a small committee of the institution should be formed to go into the different points and consider how best to assist the Royal Commission.—It was agreed that a committee should be formed with power to add to its numbers. The names proposed were Mr. Robert Jones, Dr. A. Stookes (the secretary), Dr. Macalister, Dr. Hope, Dr. R. J. M. Buchanan, Dr. J. E. Nevins, Dr. F. H. Barendt, Dr. R. W. MacKenna, Professor J. M. Beattie, and Dr. Frances Ivens.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Electrolytic Chlorine Bleach for Asylum Laundries.—Asylum Dysentery.

THE quarterly meeting of this association was held at the Medical Society's Rooms, Chandos-street, London, W., on Nov. 25th, Dr. **JAMES CHAMBERS**, the President, being in the chair.

The **PRESIDENT**, referring to the death of Sir John Batty Tuke, said that the association esteemed him as one of the earliest energetic workers along scientific lines, while in Parliament he had always been an earnest advocate of the profession's just claims. A message of condolence and sympathy was sent to his family.

Dr. J. G. **SOUTAR** proposed:

> That it is the opinion of this general meeting of the Medico-Psychological Association of Great Britain and Ireland that the asylum visiting committees of the county and borough councils and the asylum boards of Lancashire and Yorkshire, with such additions as the Act requires, be the committees for the local administration of the Mental Deficiency Act, but that the existing visiting committees should retain their statutory powers under the Lunacy Act.

The motion, which was seconded by Mr. H. **WOLSELEY LEWIS**, was carried, and copies of the resolution were ordered to be sent to the Secretary of State for the Home Department, the Secretary of the Board of Control under the Act, the chairmen and clerks to visiting committees, to the medical superintendents of each county, city, and borough asylum in England and Wales, and to the chairman and secretary of each county council in England and Wales.—Dr. **BEDFORD PIERCE**, referring to the fact that the Association had been invited to send representatives to a conference summoned by the Durham county council to consider various matters affecting assistant medical officers of asylums, submitted to the general meeting, on behalf of the Council, a resolution authorising the committee appointed to consider the status of psychiatry to place before the proposed conference, or any committee appointed by it, all information in its possession, and to offer all possible aid, to submit evidence, personal or otherwise.—Dr. **SOUTAR** seconded the motion, which was unanimously agreed to.

Mr. E. **FAULKS**, of Bexley Asylum, read a paper on an Electrolytic Chlorine Bleach for Asylum Laundries, which was claimed to produce satisfactory cleansing, disinfection, and deodorisation, with a minimum of injury to material and a definite economy of soap and labour. For the removal of intractable stains and the sterilisation of such clothing as was dangerously infected a 2 per cent. strength was employed. The carbolic coefficient of the bleach was 21, giving a germicidal power equal to a carbolic solution of 1 in 20. He had conducted several tests with bacillus coli, bacillus typhosus, staphylococci and streptococci, the results of which proved very satisfactory. In the dregs of the washer when no chlorine was used there were 150,000 organisms per c.c. averaged from a series of 18 plates; while following the chlorine treatment only four colonies were found, proving that the dregs by this process were practically sterile. It was also very efficacious in removing stains caused by blood, fæces, and menstrual secretion, and in table linen those made by cocoa. The tensile strength of the material so treated was not altered, and he declared the process had the three important advantages of economy, utility, and safety.—The paper was discussed by Mr. T. J. O'C. DONELAN, Dr. J. SHAW BOLTON, and Dr. W. F. MENZIES, the latter stating that the use of chlorine slowly deteriorated the fabric.—Mr. FAULKS briefly replied.

Mr. FAULKS also described and demonstrated an Automatic Temperature Regulator, for use when a prolonged hot bath was required. Any intelligent nurse could use it without fear of either scalding or chilling the patient in the bath. The chief part of the mechanism was a sensitive capsule, the expansion of which depressed a lever, which in turn forced down a valve, this valve being kept open by the inflow of the hot water.

Dr. SYDNEY COUPLAND, in resuming the discussion on the paper on Asylum Dysentery by Mr. H. S. Gettings, said that the paper, which gave the records of an institution over a period of nearly a century, was unique. During the seven years he was doing post-mortem examinations at Middlesex Hospital he saw only two cases, in one of which the disease was contracted in India. Since his student days there had been in that hospital on the average only one case a year. It seemed to be the same disease as that named colitis among the general population. He referred to a discussion on the subject initiated by Dr. F. W. Mott at the Epidemiological Society in 1901, when Colonel Kenneth McLeod, who in his earlier life had been attached to Durham Asylum, showed that the prevalence of the disease had often been traced to sewage contamination. The prevalence of dysentery in asylums was not of itself sufficient reason to condemn the sanitary condition of those institutions, and the Commissioners in 1902 established a register of dysentery and diarrhœa. He gave an exhaustive criticism of the whole matter by the aid of a number of diagrams which were distributed, and concluded by saying that in the conditions obtaining, with a population concentrated in asylums, it should be possible by making a close study of the disease, greatly to minimise, if not obviate, epidemics in the future. —Dr. ROBERT ARMSTRONG-JONES detailed the measures of segregation practised at Claybury Asylum to prevent outbreaks of the disease and the careful watch kept upon patients whose functions were irregular. He had been glad to find the disease called by its proper name by Mr. Gettings, and hoped Dr. Coupland's tables would be incorporated in the Journal, so that they could be studied by officers of all asylums.—Dr. BOLTON explained how some cases of dysentery in the past had been overlooked, and referred to his efforts to detect and check carriers of the disease, and to examine the stools bacteriologically. He spoke of the various improvements effected at Wakefield Asylum when certain defects were blamed for the prevalence of the disease. No matter what requirements were laid down, he felt sure that only medical officers of great enthusiasm would examine stools systematically. He hoped that a method would soon be available for diagnosing the presence of the disease in an individual, as was now possible with syphilis and typhoid fever.—Mr. GETTINGS, in reply, said that to find the infecting organism was simple; the difficulty was to detect the chronic carriers.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Myeloid Sarcoma.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Nov. 21st, Dr. T. WARDROP GRIFFITH, the President, being in the chair.

Dr. M. J. STEWART read a paper entitled "Observations on Myeloid Sarcoma, with an Analysis of 50 Cases." The purpose of the communication was, he said, to emphasise the importance of clearly differentiating true myeloid sarcoma from malignant giant-cell sarcoma, to advocate conservative treatment of such cases, and to indicate the histological criteria by which the microscopic diagnosis may be made. The paper was based on an analysis of all the cases of myeloid sarcoma, 50 in number, treated at the Leeds General Infirmary during the years 1899 to 1912 inclusive. These were investigated from both the clinical and the pathological standpoint, but special attention was paid, on the one hand, to the question of prognosis, and on the other to the minute anatomy of the growths. Forty cases were successfully traced, and of these 38 were alive at the time of writing, after periods varying from 1 to 14 years from the time of operation. Of the two patients dead one (a jaw case) was the subject of some obscure bone affection, while the other (a femur case) had refused operation and lived for five years after the exploratory incision. In neither case was there any evidence of dissemination. As a contrast to the myeloid series, five examples of malignant giant-cell sarcoma were investigated, in every one of which death with lung dissemination took place in from six months to three years from the time of operation. The histological diagnosis [illegible] characters of the giant cells, [illegible] lei. In myeloid sarcoma the [illegible] small, and without mitoses; in malignant giant-cell sarcoma they were few, sometimes single, irregular, and often very large, while mitotic figures were frequent The chief practical deduction from the series of cases under review was that conservative treatment should have a thorough trial, in suitable cases, in the first instance, and that amputation should only be resorted to after the failure of less radical measures.

Mr. WALTER THOMPSON showed a boy on whom Splenectomy had been performed for rupture of the spleen 48 hours after the accident. Fourteen days after the operation the only noticeable change in the blood was a marked increase in the eosinophiles.

Mr. J. F. DOBSON showed a man, aged 45, who was admitted to the infirmary in August, 1912, with Complete Intestinal Obstruction. A cæcostomy was performed, and on Sept. 17th of that year a large growth was removed from the transverse colon. A secondary nodule of growth, the size of a pigeon's egg, was found close to the free margin of the right lobe of the liver. A wedge of the liver containing this secondary growth was removed. No other secondary deposits were detected. The patient recovered satisfactorily and was able to resume work in February, 1913, and returned a few weeks ago for closure of the cæcostomy opening. At the present time he weighs 4 lb. more than he did two years ago, and his general health is perfectly good. Microscopically both primary and secondary growths showed the characters of adeno-carcinoma.

Dr. L. A. ROWDEN gave a demonstration of Radiographs of Renal and Ureteral Calculi and of Calcified Mesenteric Glands.

Cases and specimens were also shown by Mr. E. W. BAIN, Dr. R. A. VEALE, Mr. L. R. BRAITHWAITE, Dr. G. W. WATSON, and Dr. C. W. VINING.

SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

The Use of Vaseline in the Radical Mastoid Operation.—Respiratory Stoppage under General Anæsthesia.—A Method of Inducing Fibrosis of Tissues of Inferior Turbinates in Vasomotor and Hypertrophic Rhinitis.—Otosclerosis.—Pathological Anatomy of Ear Disease.—Etiological Relationship of Faucial Tonsils to Tuberculous Cervical Adenitis affecting Children.—Paralysis of Palate.—Exhibition of Cases.

A MEETING of this society was held in the Royal Infirmary, Edinburgh, on Nov. 22nd, Dr. J. D. LITHGOW being in the chair.

Dr. LITHGOW contributed the following communications: 1. On the Use of Vaseline, Plain Sterile and Medicated, in connexion with the Packing of the Wound in the Radical Mastoid Operation, claiming for this method that the first dressing is thereby rendered painless. 2. The Mechanism of one form of Respiratory Stoppage under General Anæsthesia, chloride of ethyl being the anæsthetic used in the cases investigated, though he was of opinion that his observations held good when other general anæsthetics were employed. He found that in certain cases the laryngeal surface of the epiglottis was firmly fixed by a sucker-like action to the posterior pharyngeal wall. The action could only be overcome by inserting the finger between the epiglottis and the pharyngeal wall. 3. (In conjunction with Mr. L. C. **Peel Ritchie.**) A Method of Inducing Fibrosis of the Tissues of the Inferior Turbinates in cases of Vasomotor and Hypertrophic Rhinitis. This method, which has been used in the treatment of hæmorrhoids and small simple tumours, consists of the injection into the soft parts of the turbinates of a 60 per cent. solution of carbolic acid in glycerine.

Dr. J. S. **Fraser** and Dr. **Gideon Walker** contributed a preliminary paper on a Clinical Investigation of Otosclerosis. The investigation inquires into the following points: (1) the tone at which Rinne's test becomes positive; (2) the presence or absence of sensibility for tickling in the external meatus; (3) the presence or absence of vestibular symptoms; (4) the rapidity of the reaction to cold syringing; (5) Gelle's test; (6) the upper tone limit with the monochord; (7) the family history; and (8) the general medical examination of the patient for rheumatism, gout, disorders of menstruation, and so on.

Dr. **Fraser** gave an instructive epidiascopic demonstration of the Pathological Anatomy of Some Cases of Ear Disease, and showed two patients on whom he had operated for middle-ear suppuration with labyrinth symptoms. In both the labyrinth phenomena were somewhat anomalous. In one the caloric reactions and the pointing test gave varying results at different periods. No fistula symptom was obtained, and on performing the simple Schwartze operation no fistula was found. The tympanic cavity was not interfered with and the hearing returned to normal, and the labyrinth phenomena and nystagmus disappeared. In the other case no fistula symptom was obtained, but on the performance of the radical mastoid operation a fistula of the horizontal canal was found. The labyrinth was not opened, and the patient made a good recovery.

Dr. A. **Philip Mitchell** contributed a paper on the Etiological Relationship of the Faucial Tonsils to Tuberculous Cervical Adenitis affecting Children. Of 64 consecutive cases of children suffering from tuberculous disease of the upper cervical glands 24 showed histological evidence of tuberculosis of the tonsils. Inoculation of guinea-pigs from these cases yielded positive results in 19, and of these the bovine bacillus was present in 12, and the human in 3 cases. Of hypertrophied tonsils from 90 children who showed no clinical evidence of tuberculous gland disease, those of 6 gave histological evidence of tuberculosis, and 9 yielded positive results on inoculation.

Dr. A. **Logan Turner** gave notes of a case of a child on whom Enucleation of the Tonsils and Removal of Adenoids had been performed two years previously, since which time symptoms of Paralysis of the Palate had at times been observed.

The following cases and specimens were exhibited:—

Dr. **Lithgow**: (1) A patient operated on for Double Frontal Sinusitis; and (2) (with Mr. **Peel Ritchie**) two patients operated on for Malignant Disease affecting the Buccal Pharynx and Laryngo-pharynx.

Dr. W. T. **Gardiner**: A patient with Chronic Subglottic Infiltration which was thought to be syphilitic, though in the subsequent discussion much diversity of opinion was expressed as to its nature, and the exhibitor was asked to remove a portion for microscopical examination and to report at a future meeting.

Mr. W. G. **Porter**: 1. A patient on whom he had operated for a Right Temporo-sphenoidal Abscess due to chronic middle-ear suppuration. The functions of the ear, both auditory and static, were gone, and on operation the dura of the middle fossa was found to be exposed and covered with granulations. The pus from the abscess gave a streptococcus in pure culture. 2. A case where a halfpenny had been retained in the œsophagus of a child for eight years. 3. A very interesting case of Post-operative Osteomyelitis.

Dr. J. K. **Milne Dickie**: 1. A patient suffering from Hoarseness dating from birth. There was an irregular thickening of the left vocal cord, the nature of which it was difficult to determine. 2. An interesting case of Laryngeal Stridor. The patient, a woman of 43, suffered from asthma and bronchitis. Laryngeal stridor developed and on examination it was found that the right cord could be abducted only slightly and the left one not at all. The laryngeal obstruction became severe and tracheotomy had to be hurriedly performed. A few days later the cords could move quite freely. In the discussion which followed it was suggested that an acute enlargement of the bronchial glands had developed in association with the bronchitis, and that this had caused irritation of the recurrent nerves and adductor spasm.

Dr. **Logan Turner**: 1. A patient, a girl 7 years of age, who had recovered from Post-operative Meningitis. The child suffered from chronic middle-ear suppuration. On the performance of the radical mastoid operation a polypus was removed from the region of the round window. The next day symptoms of meningitis appeared. On lumbar puncture the cerebro-spinal fluid was found to be cloudy, faintly acid, containing albumin, and reduced Fehling solution incompletely. There was no growth on culture. A double vestibulotomy was performed and the internal auditory meatus opened into, and translabyrinthine drainage established. Lumbar puncture was performed on five occasions, and urotropin in 10 grain doses injected into the canal. 2. A rare case of Hyperplasia of the Mucous Membrane of the Uvula, Soft Palate, Pharynx, and Larynx. 3. A case of Multiple Telangiectases of the Skin of the Face and the Mucous Membrane of the Nose and Mouth. 4. Two cases of Sarcoma of the Tonsil operated on a year ago without recurrence. 5. A patient on whom Mr. Wallace had operated three years ago for Malignant Disease of the Upper End of the Œsophagus, and in whom no recurrence has taken place.

Dr. J. **Walker Downie**: Two very good specimens of Calculus of the Tonsil; the cases from which they were removed were described.

A noteworthy feature of the meeting was the museum, in which were shown specimens, microscopic slides, models, X ray photographs, instruments, sketches and paintings, contributed by a number of members of the society.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Pathology.

Exhibition of Specimens.—Three Fatal Cases of Pharyngitis.

A meeting of this section was held on Nov. 14th, Dr. J. B. **Coleman**, C.M.G., the President, being in the chair.

Dr. A. R. **Parsons** showed a specimen of Spontaneous Rupture of the Heart. The patient first came to him complaining of flatulence and jagging pains in his right hypochondrium. The patient's mother died from "burst aneurysm of the heart." The patient was engaged in hard manual labour. Physical examination showed nothing abnormal, nor did the urine contain any abnormal constituent. Examination after a bismuth meal discovered nothing abnormal. A second examination of the stomach contents gave a positive reaction for blood, but no trace of free hydrochloric acid. Two months later the flatulence was as bad as ever, and food had to be taken every two hours in order to produce moderate comfort. He was gradually increasing in weight, and would not consent to operation, as he insisted that his heart would not stand it. One day, three months later, he became acutely ill, and stomach trouble, possibly perforation, was suspected: but physical examination negatived perforation or peritonitis. The patient died shortly afterwards quite suddenly. Dr. Parsons said his diagnosis had been some form of ulceration, although it could not be overlooked that the patient had gained in weight. The pain he regarded as most likely anginal. Post mortem, on opening the pericardium fluid blood at once escaped. The stomach was quite small, and there was no evidence of gastrectasis, but along the lesser curvature was a hard mass suggestive of malignant disease, but no enlargement of the glands was discovered. It was evident that death was due to rupture of the heart. Two points which impressed him were: first, that hunger pain is not pathognomonic of duodenal ulcer, and second, that steady and progressive increase in weight is not incompatible with malignant disease of the stomach.—Professor A. C. **O'Sullivan** said the heart showed a rupture, which apparently ran along the anterior wall of the right ventricle close to the septum, and about three-quarters of an inch long.

Both ventricles appeared to be ruptured There was extreme fatty infiltration and diffuse fatty degeneration of the heart muscle. The stomach contained a raised mass running from one curvature to the other, which caused thickening of a large area of the stomach wall. There was no ulceration anywhere. The cancer was of a rather unusual type—small round-celled.—The PRESIDENT said the condition was a very rare one indeed. He recalled a specimen of rupture of the heart shown by him before the section some 17 years ago. The condition always appeared to be due to fatty degeneration of the heart muscle.—Professor A. H. WHITE referred to three cases in the College museum, in each of which the rupture was due to a localised degeneration of the coronary artery or a branch.

Mr. T. T. O'FARRELL brought forward a specimen of Favus to draw attention to the technique of fixing and staining the hairs for spores and mycelial threads in cases of ringworm and favus. He used a Gram-Weigert method, and placed the various solutions in successive drops on a white tile. This simplified the process and rendered the recovery of the hairs an easy matter. The results were excellent.

Mr. O'FARRELL also showed a specimen of Glioma of the Fourth Ventricle from a male patient aged 24. Up to five weeks previous to being seen he was in good health. When stooping he was inclined to fall forward. Romberg's sign was present. Pulse and respirations were normal; temperature subnormal. When walking to hospital a week later he fainted. His pulse was weak, but he spoke clearly. About 12 hours after admission his speech thickened and he became stupid. He complained of headache, and his face dropped on the left side. The paralysis extended, and he died five hours later. At the post-mortem examination no hæmorrhage could be found until what appeared to be a large clot was discovered in the fourth ventricle. The conclusion was formed that it was a hæmorrhage into a tumour. Sections showed it to be undoubtedly a glioma. The position was of interest.—The PRESIDENT said it was obvious that an exact clinical diagnosis would have been extremely difficult, as the patient was able to walk about up to a comparatively short time before death.

Dr. W. BOXWELL read a note on Three Cases of Fatal Pharyngitis which had occurred during the scarlet fever epidemic last September.

Dr. BOXWELL also showed (1) a specimen of Organic Obstructive Dilatation of the Stomach due to a small scirrhous cancer of the head of the pancreas, causing partial obstruction of the duodenum; and (2) a specimen of an Atrophic Pancreas due to obstruction of the duct by numerous calculi of calcium phosphate and carbonate. The duct was widely dilated and the gland fibrous.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Sheffield on Nov. 21st, Dr. W. E. Fothergill (Manchester), the President, being in the chair.—Mr. Miles H. Phillips (Sheffield) showed a case of Peritoneal Implantation of the Ovum. The patient was operated upon for ectopic pregnancy and a bleeding tube removed. A small nodule was noticed under the peritoneum of the pelvic wall and was excised. This proved to be an ovum covered by peritoneum, except in one spot.—Mr. W. W. King (Sheffield) read a paper on the Serum Diagnosis of Pregnancy in which he described his technique and gave his results of the examination of 50 cases. Twenty-five pregnant patients all gave positive reactions; 5 others in whom the clinical diagnosis of pregnancy was uncertain also gave positive results. Two recent septic abortions were negative. Out of 18 non-pregnant patients, two sera digested placental albumin. His results of the question of the specific character of the ferments showed that the serum of pregnant patients would in some cases digest carcinomatous tissue and *vice versâ*.—Mr. Phillips also showed specimens of Parasitic Ovarian Dermoid and Papillary Ovarian Tumour.—Mr. Favell (Sheffield) showed a specimen of Large Fibromyoma of the Vaginal Wall.—Mr D. Gray Newton (Sheffield) showed a specimen of Tumour of the Vulva.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 12th, Dr. P. Watson-Williams being in the chair.—Mr. F. E. Shipway demonstrated an apparatus for the Intratracheal Insufflation of Ether, [illegible] in ad[illegible] the p[illegible] the v[illegible] Stock[illegible] employing too high a pressure, and he demonstrated a combined safety-valve and manometer which he had constructed to obviate this risk.—Mr. E. W. Hey Groves showed a simplified apparatus operated by a foot bellows instead of by a motor pump.—Dr. Watson-Williams had found that this method obviated any risk of the entry of blood into the lower respiratory tract during nasal and pharyngeal operations.—Dr. J. A. Nixon read notes on a case of Splenectomy for Simple Splenomegaly. The spleen on section showed a simple hyperplasia. As a result of the operation there was an immediate rise in the blood colour-index.—Mr. Hey Groves also showed a Spleen removed from a woman with splenic enlargement, hepatic cirrhosis, and ascites, in which some improvement took place after operation, and suggested that removal of the spleen produced improvement by the relief of the portal circulation.—Mr. J. Lacy Firth demonstrated a specimen of Abscess of the Liver. Although there had been no symptoms of dysentery during life extensive ulcerative lesions were found in the colon post mortem.

Reviews and Notices of Books.

Irritability: a Physiological Analysis of the General Effect of Stimuli in Living Substance.

By MAX VERWORN, M.D., Ph.D., Professor at Bonn Physiological Institute. With Diagrams and Illustrations. New Haven: Yale University Press. London (Oxford University Press), Toronto, Melbourne, and Bombay: Henry Frowde, Hodder and Stoughton. 1913. Pp. 264. Price 15*s*. net.

THE present volume constitutes the ninth of the annual series of the Mrs. Hespa Ely Silliman Memorial Lectures in the University of Yale—lectures which the testatrix desired should be so designed as "to illustrate the presence and providence, the wisdom and goodness of God, as manifested in the natural and moral world." Professor Verworn's lectures were delivered in 1911. The text in its present form was written in German in the same year, and the translation was made by the lecturer's wife with the help of Dr. Lodholtz, of the University of Pennsylvania.

Those readers who are conversant with the work of Professor Verworn and his pupils successively in the Universities of Jena, Göttingen, and Bonn will be glad to have this luminous account of the general effects and laws of stimulation in the living substance—and, indeed, no living substance exists without stimulation, while in the vital manifestations of all organisms the interplay of the most varied stimuli produces an enormous and manifold variety of effects. The work consists of nine chapters, which we take to represent nine lectures. In the first chapter, which is largely historical, the irritability of living substance, both as a general property of living substance and as irritability of a specific type, is discussed. Its study may be regarded as a path to the investigation of life, and the author's wish is to follow this path towards the knowledge of the vital processes and to endeavour to show what information the analysis of irritability and that of the effect of stimuli can give us of the mechanism of the processes in living substance. To this end he begins with the history of the question from the time of Francis Glisson (1597–1677), the founder of the doctrine of "irritability," and one who in a certain sense was a forerunner of those who interpreted nature from a physical standpoint. The work of Johannes Müller on the "specific energy" of living substance (1801–1858), that of Haller and of Virchow in his epoch-marking "cellular pathology," the contributions of Bernard on the influence of anæsthetics, as well as the researches of many other observers, are passed in review, until he comes to the views of Hering, Haeckel, and those of Semon, culminating in what has been called the "mneme."

The second chapter deals with the Nature of Stimulation, which contains a good deal of philosophic speculation as to cause and condition. A stimulus is regarded as "every change in the vital conditions," while the relation of one given state to another forms an indispensable point in the understanding of the stimulus. Finally, the author gives the definition, "stimulus is every alteration in the external vital conditions." Perhaps this definition still leaves something to be desired. Next the Characteristics of Stimuli are dealt with as regards (1) quality, chemical, thermal, photic, mechanical, and osmotic, and some forms of stimuli not ordinarily operative, e.g., many uncommon chemicals and certain kinds of rays; (*b*) direction, either positive or negative—the increase or strengthening or inhibition; (*c*) amount; (*d*) the threshold of stimulation which furnishes roughly a standard for the degree of irritability of living tissue (perhaps instead of the word "sub-threshold" "sub-liminal" would be better); (*e*) rapidity of alterations, a most important matter, which is discussed very fully.

The General Effect of Stimulation is next considered in a more systematic manner, especially as regards metabolism. In nature there is nowhere a "metabolism of rest." It is a convenient abstraction, to distinguish it from "metabolism of stimulation," and the "equilibrium of metabolism" in which readers of Verworn's terminology will recognise his term "biotonus," where assimilative and dissimilative processes are equal. The majority of all temporary responses to stimuli consist in alterations of rapidity of the vital processes. The author discusses Ostwald's definition of catalysis, and characterises certain responses as "catalytic stimulation and response" in contradistinction to another group of stimuli which cause qualitative alterations in the specific vital process—"metamorphic stimulation and response," e.g., the metabolic products of bacteria, and many reactions in chronic diseases. The analysis of asphyxiation is particularly interesting, and so is the discussion on Hering's "internal self-regulation of metabolism." All recovery after disease is based on this self-regulation.

The fifth lecture deals with the Analysis of the Process of Excitation, including such phenomena as the latent period, and above all the importance of oxygen—"the sudden discharge of energy in the aerobic organisms set free by the stimulus is brought about by the addition of oxygen." Readers should pay particular attention to Verworn's masterly exposition of this thesis. Conductivity is the burden of the next lecture. A normal medullated nerve conducts excitation without a perceptible decrease of the intensity. Perhaps the most novel chapter is that on the Refractory Period and Fatigue. The conclusion is reached that "fatigue is invariably asphyxiation." The fatigue of muscle, nerve centres, and peripheral nerves is considered. Nerve fibres are usually regarded as unfatigable, but according to the author "nerve is fatigued by the quick succession of stimuli"; indeed, all living systems are capable of fatigue. A somewhat long exposition is given on Interference of Excitations, and the lectures are brought to a close by a study of the Processes of Depression.

The whole work is singularly suggestive, and presents the author's views with a lucidity which leaves little to be desired. The subject of so-called general physiology receives in this exposition a handsome and in many ways an original contribution to its already rich stores of facts, the author's aim being to infuse uniformity into the heterogeneous mass of isolated observations. He has succeeded in no small degree in his aim. We thank him most cordially for his graphic, interesting, and philosophic contribution to the literature of "Irritability."

Asthma and its Radical Treatment.

By JAMES ADAM, M.A., M.D. Glasg., F.R.F.P.S Glasg., Dispensary Aural Surgeon, Glasgow Royal Infirmary. London: Henry Kimpton; Glasgow: Alexander Stenhouse. 1913. Pp. 184. Price 5*s.*

Dr. Adam's main object in writing this book has been to prove that asthma is primarily a toxæmia. The clinical description he gives of the disease indicates that he is dealing mainly with spasmodic asthma rather than with the bronchial form.

The exact pathogeny of asthma has been much disputed, and even at the present day diverse views are held by different observers. The majority of physicians are of opinion that the disease is the result of bronchial spasm brought about by varying influences. Dr. Adam accepts the theory of bronchial spasm and of a resulting hyperæmia of the mucous membrane, but maintains that these two conditions are the result of a toxæmia. He summarises his main points thus. Asthma is primarily a toxæmia; this condition arises partly in the bowel, partly in the tissues; it arises partly by absorption of nitrogenous poisons resulting from intestinal putrefaction under microbic action, but is mainly due to an error in nitrogenous metabolism, the result of imperfect oxidation or enzyme action. In short, the poison arises from protein food or protein tissue. The error in protein metabolism is closely connected with excess of carbohydrate in the diet. The toxæmia, whether arising in bowel or tissues, or both, tends to show itself first as catarrh, later as spasm in the respiratory tract.

We cannot admit that we are convinced by the evidence and arguments which Dr. Adam advances. It is highly probable that some cases of asthma are due to the absorption of toxins and products of faulty digestion. The term "peptic asthma," which has been given to the paroxysms of dyspnœa which bear a definite relationship to gastric and intestinal disturbances, shows that this syndrome has been appreciated. Further, it is known that it is wiser for an asthmatic patient to take the principal meal in the middle of the day; but to make a specific statement that all cases of asthma are due to a toxic condition of that nature requires more proof than Dr. Adam produces before it can be generally accepted.

Dr. Adam fully recognises the importance of thoroughly examining the nasal passages for any lesion, and also the beneficial effects that may be obtained in some cases by removing causes of irritation which may exist in the nose; but he sums up the relation of nasal disease to asthma by saying that the "toxæmia alters the asthmatic so that his condition becomes like a powder magazine; nasal disease is apt to supply sparks which cause the explosions of asthma."

He considers that the clinching evidence for [illegible]

for he holds that a combined system of regular diet and regular fasting is the most important element in the treatment of asthma, as such a course arrests the toxæmia and prevents a fresh accumulation of poisonous products. The instructions which he gives as regards exercise and fresh air are certainly good, and may be followed with advantage, and with the general drug treatment which he prescribes we are quite in accord, but we do not think that the chapter on treatment and diet is such a powerful support to his theories as he maintains. Doubtless great care in diet is essential to an asthmatic, but we believe that the majority of physicians will agree that in spite of all care as regards diet and general mode of living the essential neurotic element will assert itself and cannot be disregarded. The place of residence, temporary or permanent, is undoubtedly a powerful factor in exciting or preventing attacks; clinical evidence in support of this is overwhelming. Dr. Adam's explanation is that "place asthma" is due to a material change of regimen, or that the dread which patients have to certain places adversely influences their metabolism and renders them more liable to attacks, or that damp localities are certainly bad for asthmatics. These remarks are suggestive but not conclusive. The main outlines of treatment laid down are good, and if followed will be found of benefit in a large number of cases, but there are many patients in whom improvement will not follow unless other means than are suggested in this work are adopted.

Müller's Serodiagnostic Methods.

Authorised translation from the third German edition by ROSS C. WHITMAN, B A., M D., Professor of Pathology, *University of Colorado School of Medicine.* London and Philadelphia: J. B. Lippincott Company. Pp. 143. Price 6*s.* net.

A GLANCE at the contents of a book such as this affords striking evidence of the number and complexity of the reactions presented by the serum of the blood, as well as of the variety of ways in which help is sought by the clinician and others at the hands of the laboratory worker.

After a brief but practical account of the ways of preparing immune serums from animals, and of obtaining and keeping the blood both of lower animals and of man, the author deals first with the precipitation reactions as applied to the recognition of human blood and of meat adulterations, as well as to the diagnosis of syphilis, while three separate methods are described by which the peculiar property of syphilitic blood of forming floccules with colloidal solutions is demonstrated. The uses made of the agglutination reaction are next dealt with and the different modifications introduced by various observers are set forth, this section being followed by one devoted to the phenomena of bacteriolysis *in vivo* and *in vitro*. Cytolytic reactions include Freund and Kaminer's method of cancer diagnosis, Abderhalden's test for pregnancy, and Moro's alexin test, while a considerable amount of space is naturally devoted to the various reactions in which deviation of complement plays a part. By variations o[illegible] protein may be [illegible] not only syphilis [illegible]sermann reaction are here described—but cancer, gonorrhœa, and tuberculosis are said to be thus recognisable. The power possessed by cobra venom to produce hæmolysis is found to be modified by the serum of certain patients, and use has been made of this peculiarity for testing purposes; syphilis, cancer, pregnancy, and certain psychoses are examples of such conditions. Other procedures dealt with are the estimation of the antitryptic content of the serum, the meiostagmin reaction, opsonic indices, and the titration of antistaphylotoxin and diphtheria toxin in the serum. Such an enumeration of contents shows the extraordinary amount of material which is compressed into the small compass of this book, while the special feature of the work is the detailed description of the exact method of carrying out each test. It should thus be of great use to laboratory workers who are constantly called on to perform the various tests and can hardly carry all the details in their memories.

The translator has done his work well and has himself added one or two procedures which have been described since the German edition was produced. It will be interesting to note how many of the numerous methods here described stand the test of time and are permanently adopted. The author in his preface to the third edition holds that it is yet too soon to condemn any of them and that further experience must be awaited. The translator notes that the Noguchi modification of the Wassermann reaction has been omitted at the request of its author.

Massage, Manual Treatment, Remedial Movements, History, Mode of Application, and Effects.

By DOUGLAS GRAHAM, M D; with a chapter on Massage of the Eye by Dr. A. DARIER, Paris. Fourth edition, illustrated. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 574. Price 21*s.* net.

SINCE the first edition of this work was published in 1884 the uses of massage have increased to such an extent, and the study of its effects has drawn so [illegible] of medicine, [illegible]inciples and [illegible]aterial for a [illegible]nder review is stated to be a record of the personal experience of the author, combined with excerpts from the best writers in Europe and America. It covers both theory and practice.

After an interesting sketch of the history of massage in all countries, from earliest days until it was placed on a scientific basis by Peter Ling, of Stockholm, in the year 1813, the author devotes 35 pages to the mode of applying massage. All that can be said on the subject in a general way seems to have been said in this chapter. The rest of the book deals with the application of massage in several conditions. The physiological effects of massage are very fully considered, the results and in many cases the details of experiments performed by the principal observers being fully discussed. The eighth chapter contains a full account of the interesting and illuminating experiments by Professor C. F. Hodge on "The Changes due to Functional Activity in Nerve Cells," which was published in the *Journal for Morphology*, November, 1892. There are separate chapters on the value of massage in neurasthenia, heart affections, affections of the central nervous system, Raynaud's disease, writer's cramp, neuralgia, muscular rheumatism, lateral curvature of the spine, joint affections, &c.; also one on massage of the eye by Dr. A. Darier, of Paris. In Chapter IX., on massage of the uterus and its surroundings, we are led to expect a report of 239 cases, but we have not been able to find more than a reference to it. Handling of the heart in chloroform disasters and manipulation of the abdomen in intestinal obstruction are subjects that it surprises us to find in a text-book on massage, and what can be said of the recommendation to use massage in appendicitis?

Each chapter has its motto, an appropriate heading to what follows. That of the seventh chapter is from *Love's Labour Lost*—

> "I fear too much rubbing! Good night,
> My good owl."

The chapter deals with massage for local conditions in neurasthenia, and doubtless the author's opinions of its efficacy are crystallised in the motto. The motto is one which without much risk of misapplication might be put to a more extended use amongst exploiters of massage and physical culture.

The Pathology of Growth.

Edited by A. E. BOYCOTT, B.Sc., M.A., M.D. Oxon. Vol. I.: Tumours. By CHARLES POWELL WHITE, M.D. Cantab., F.R.C.S. Eng. London: Constable and Co. 1913. Pp. 235. Price 10*s.* 6*d.* net.

TEXT-BOOKS of pathology by English authors, other than those which may be classed as students' handbooks, are sufficiently uncommon to deserve more than usual attention, and the first volume of Dr. Boycott's series is certain of a very warm welcome. It is presumably intended in the first place for those students who look upon pathology as something more than a mere obstacle in the cross-country run to a medical degree; and few who read this volume, however close their acquaintance with the subject, will lay it down without a sense of gratitude to the author.

Dr. Powell White begins, in chapters that could hardly be bettered, with a consideration of the problems of development and growth and the relationship of functional activity thereto. The directions in which variations in these processes can occur are pointed out, the variations being divided into two main groups—"adaptive" and "progressive." Adaptive variations are "the result of definite extrinsic causal factors, and are useful in nature and come to a definite termination"; progressive variations are "not attributable to definite extrinsic causal factors; they are harmful in character, and are not limited by the needs of the organism." Considerable stress is laid on the distinction between these two types of variation, and in his conclusions the author includes tumours amongst the progressive processes as "examples of progressive hypertrophy involving minute cell groups or complexes instead of the whole organ."

In dealing with the description of tumours Dr. Powell White gives an admirably clear and concise account of our knowledge of the different varieties of tumours, their structure, and their mode of growth. He adopts a purely histological basis of classification with three main groups—organ, tissue, and cell tumours, subdividing the last two according to the type of tissue or cell involved. This method may have drawbacks from the point of view of a general consideration of tumour growth, but for purely descriptive purposes it is perhaps the simplest and clearest. Particularly excellent is the lucid way in which the tumours occurring in connexion with lymphadenomatous tissues are treated. Following a short chapter on the biological aspect of tumour formation, the last chapters are devoted to a study of the factors concerned in the causation of tumours. Here the author gives us very concisely the facts which have been ascertained, and he considers in an impartial way the conclusions that may be drawn therefrom.

With regard to the theories of a parasitic origin for cancer, Dr. Powell White points out very forcibly the almost insuperable difficulties involved in the assumption of a specific parasitic origin, but he adds that "these difficulties entirely disappear if we consider the cancer cell itself as a parasite, and cancer as a process of infection by cancer cells." This is a repetition of the views expressed in his Erasmus Wilson lectures in 1902,[1] but we doubt the wisdom of the statement, for unless we use the word parasite in a sense quite foreign to its general meaning we find ourselves faced with the view advanced by the late Sir Henry Butlin,[2] and have surely to admit a new creation of living thing arising from our tissue cells. The illustrations, which are mostly from original photomicrographs, are very numerous and particularly good.

We have only one serious criticism—perhaps an ungenerous one in these crowded days—to offer, but we think that Dr. Powell White is rather too reticent in giving us his own conclusions on the facts that he has marshalled so ably for our instruction. This may be inevitable in dealing with so complex a subject as the growth of tumours, but there are few people who could guide us better than the author, and we fancy that many of his readers will wish at several points of the book that they might get a rather deeper insight into his own conclusions. We look forward with great interest to the remaining volumes of this series, and if Dr. Boycott succeeds in maintaining the level reached by the first he will assuredly receive the thanks of all those who are engaged in the study and in the teaching of pathology.

Handbuch der Pathogenen Mikro-organismen.

Herausgegeben von Dr. W. KOLLE und Dr. A. VON WASSERMANN. Zweite vermehrte Auflage. Part 45, pp. 100, price 5 marks; part 46, pp. 150, price 5 marks; part 47, pp. 130, price 5 marks; parts 48 and 49, pp. 332, price 10 marks; parts 50 and 51, pp. 216, price 10 marks; parts 52, 53, and 54, pp. 384, price 15 marks. Jena: Gustav Fischer. 1913.

THE successive parts of this monumental work continue to appear with commendable regularity. Of the parts before us the first two deal with the bacteriology of several affections of the lower animals, such as chicken cholera and swine fever. Then follows an important chapter on the bacteriology of the healthy mouth by Dr. E. Küster, who has also contributed the accounts of the flora of the healthy nose and the healthy vagina. Important also is the chapter on the significance of the bacteria of the intestinal canal, also written by Dr. Küster. Professor H. Conradi and Dr. W. Bierast have written an interesting article on the bacillus coli communis as a cause of disease. Dr. T. Axenfeld has contributed an elaborate account of the bacteriology of the different forms of conjunctivitis. The chapter on the various forms of spirochætæ which cause disease is interesting; it is followed by a chapter on the spirochæta pallida. Professor P. Muhlens has described the spirochætæ of yaws and of relapsing fever. A very full account is given by Professor Weinberg of the echinococcus, including the serum diagnosis of its presence. Professor Fulleborn has written a very full description of the filariæ affecting men; it occupies 160 pages. One of the most important contributions is that of Dr. B. Lipschutz, which deals with those causes of disease which are able to pass through a porcelain filter. This, of course, does not constitute a natural group of causes of disease, but the very difficulty of finding the excessively minute organisms distinguished by this character makes it convenient to class them together. Some, indeed, have been seen, but many still evade the microscope. Still, it is worthy of note that there are some 40 diseases in which the infective material can be filtered. There is also one section dealing with general pathology and treating of agglutination, opsonins, and the experimental investigation of tumours.

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[1] THE LANCET, Feb. 22nd, 1902, p. 494.
[2] THE LANCET, Nov. 25th and Dec. 2nd, 1911.

LIBRARY TABLE.

Guide to the Microscopic Examination of the Eye. By Professor R. GREEFF, Director of the University Ophthalmic Clinique in the Royal Charity Hospital, Berlin. With the coöperation of Professor STOCK, Freiburg, and Professor WINTERSTEINER, Vienna. Translated from the third German edition by HUGH WALKER, M.A., M.B., C.M. Edin., Ophthalmic Surgeon to the Victoria Infirmary, Glasgow. London: The *Ophthalmoscope* Press. 1913. Pp. 86. Price 7*s.* 6*d.* net.—The third edition of Professor Greeff's "Guide to the Microscopic Examination of the Eye" will be welcomed. It has long been the most generally serviceable book on the subject. In this edition he has obtained the coöperation of Professor Stock and Professor Wintersteiner, both well known for their work on the pathological anatomy of the eye. The translation by Dr. Hugh Walker, of Glasgow, has been appearing serially in the *Ophthalmoscope*, and is now available in a more convenient form. It is needless to say that the subject matter is thoroughly reliable and contains all that the ordinary student requires, as well as some special methods of preparation and staining which will prove useful for research work. Some valuable references to the literature of the subject are given, so that the student is put in the way of still further extending his knowledge. The translation leaves nothing to be desired, and as a book of reference for the laboratory it will prove very valuable.

Pathologisch-anatomisches Praktikum für Studierende und Aerzte. By RICHARD OESTREICH. Berlin and Vienna: Urban and Schwarzenberg. 1913. Pp. 304. Price 6.80 marks.—The author in his preface states that this book is intended merely as a companion to students attending their course in pathological anatomy, and that it can in no way replace the special text-books. It is possible that in the land of its birth the book may serve a very useful purpose, and certainly the student who carried out the various investigations described would make a very exhaustive post-mortem examination; but in any course in which there is an adequate teaching staff such aids as this volume affords should be unnecessary. There are, however, two features in the book which deserve special mention. By a somewhat wearisome reiteration it emphasises the need for close attention to detail, and it devotes unusual care to bacteriological investigation. Both these are points on which the young morbid anatomist is not infrequently found wanting. The book is divided into three parts. Part I. deals with a description of technique, macroscopical, microscopical, and bacteriological. Part II. deals with pathologico-anatomical diagnosis. Part III. is concerned with general pathology. Much of this last part might well be omitted, for many of the subjects included—e.g., precipitins and opsonins—cannot possibly be discussed adequately in the space allotted, and by no stretch of imagination can they be included in pathological anatomy.

Obstetrics for Nurses. By JOSEPH B. DE LEE, Professor of Obstetrics, Northwestern University Medical School, Chicago. Fourth edition, thoroughly revised. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 508. Price 12*s.* net.—In this, the fourth edition of Dr. de Lee's "Obstetrics for Nurses" both the text and the illustrations have been thoroughly revised. There is a description of the after-care of patients following operations for fistula and the proper methods of managing a retention catheter, a very important matter from the nursing point of view. An illustration and a short account are given of Momburg's method of applying a rubber cord to the abdomen for the arrest of uncontrollable post-partum hæmorrhage. Attention is also called to the recent revival of the practice of direct blood transfusion, to which, however, there does not appear to be any reference in the index. The section on Cæsarean section has been considerably amplified in view of the increasing frequency with which the operation is performed at the present time. The chapter on infant feeding, which contains much sound advice, has been thoroughly revised by Dr. F. X. Walls. The book contains all the good characteristics of the earlier editions, and is one which we can cordially recommend to obstetric and gynæcological nurses.

Biochemie des Wachstums des Menschen und der Höhern Tiere. Von Dr. Phil. et Med. HANS ARON, Assistentarzt an der Kgl. Universitäts-Kinderklinik in Breslau. Jena: Gustav Fischer. 1913. Pp. 71. Price 2.50 marks.—This brochure "On the Biochemistry of Growth" is reprinted, with additions, from the "Handbuch der Biochemie." It is a most useful and painstaking account of a field of practical importance which has been but little cultivated, so that we are all the more grateful to the author for the trouble he has taken in presenting the matter in such a suggestive form, though as usual composition tables must necessarily bulk largely in its presentation. The suggestions and reflections of the author are particularly interesting.

MISCELLANEOUS VOLUMES.

WE have received a number of text-books on chemistry, physics, and biological science which may conveniently be reviewed in this column.

In his *Organic Chemistry for Students of Medicine* (London: Gurney and Jackson. 1913. Pp. 328. Price 6*s.* net) Professor JAMES WALKER, LL.D., F.R.S., of the University of Edinburgh, while limiting his treatment of the subject to the requirements of students of medicine, has made an effort to preserve scientific method. He realises the dangers of the mere cram-book, which he hopes to have avoided by selecting those chemical substances which are of importance not so much in systematic or synthetic chemistry as for their medical interest. It is, of course, true that the medical student cannot dispense with chemical study when he has passed his first professional examination, since he is faced with chemical considerations when he pursues his education in physiology, pathology, and pharmacology. In a word, the medical man nowadays must keep some pace, at all events, with the developments of biochemistry. We think Professor Walker has been wise in his [illegible] and also in regard to their sequence [illegible] writing as a pure chemist, he shows [illegible] medical significances of the subjects which he has elected to include in his book.——An excellent series of popular lectures is *Chemistry in Daily Life*, by Dr. LASSAR-COHN (London: H. Grevel and Co. 1913. Pp. 318. Price 6*s.*). The book is translated by Mr. M. M. PATTISON MUIR, and has reached a fifth edition. That it is appreciated is shown in the fact that it has been translated into 13 languages. We are not surprised at this, since it presents in a clear, intelligible way the chemistry of familiar everyday objects and occurrences. In Mr. Muir's words, "the author shows that chemical phenomena are intimately bound up with our daily lives, and that whether we are conscious of it or not we are constantly carrying on chemical operations." That of course is true, and those who care to know what these phenomena and operations amount to in clear terms of chemical science will read these lectures with pleasure and profit.

Industrial chemistry is represented by *The Sugars and their Simple Derivatives* (London: Gurney and Jackson. 1913. Pp. 242. Price 7*s.* 6*d.*), by JOHN E. MACKENZIE, D.Sc., Ph D. This book is based upon a course of lectures delivered by the author at the Birkbeck College, London, in 1903. It serves the very useful purpose of giving an extended account of the sugars which is not to be found elsewhere. The sections on the action of bases on sugar, for example, give more detailed information than is usually afforded in a text-book, and the reader has the advantage also of being referred to original papers on the subject if he wishes to carry his information further. Amongst the carbohydrate group the sugars have received more attention than any other members, and hence, as the author points out, "the chemical configuration of the majority of them has been elucidated." This elucidation forms not the least interesting topic in the book. The closing chapter on metabolism contains necessarily a reference to glycosuria, which the author is inclined to reduce to simple chemical terms expressed in failure of oxidation, the sugar passing unchanged through the kidneys "instead of being burned in the usual way."——Though intended for the guidance of technologists there are some interesting scientific principles at stake in the *Practical Management of Pure Yeast*, by ALFRED JORGENSEN (London: The Brewing Trade Review. Second edition. Pp. 128. 1913. Price 5*s.* net). On this account there is in the book some appeal to the purely scientific reader. The control of fermentation is, of course, of first importance in the brewing of beer, and it is the study of this question which has resulted in the production of a uniformly sound and wholesome beverage. The analysis of yeast and the preparations of pure cultures receive special treatment.

A simple course of scientific exercises, chiefly chemical, is outlined in the *First Year Course in General Science* (London: William Heinemann. 1913. Pp. 113. Price 2*s.* 6*d* net), by Mr. E. A. GARDINER, M.A., Senior Science Master, Berkhamsted School. Some idea of the ground covered is conveyed by the headings of the three parts into which the book is divided—viz., Simple Measurements, Some Common Apparatus and Instruments, and Properties of Water and Air. The method of instruction takes the interrogative form, and the questions asked are in simple terms, though they involve great principles. The method is attractive, and is likely to succeed, for the author knows how to introduce his subject in steps easy to ascend. If schoolboys were helped in this way many of them would be grateful for such groundwork when they come to apply themselves to a career which demands a knowledge of general scientific principles.——Another book for school use is *Introductory Electricity and Magnetism* (London: William Heinemann. 1913. Pp. 373. Price 2*s.* 6*d.*), by CARL W. HANSEL, B.Sc (Honrs.) Lond., which presents the subject in experimental stages adapted to the beginner's needs In saying this we must limit the term beginner. We refer to the study of this particular department of science, for the book would be of little use to the student unless his education in other scientific directions had reached a fairly high level. The descriptions of the experiments, for example, are not always in elementary terms, and the subject is not pursued very far before (in the early pages of Chapter VI.) equations are introduced. There are 25 chapters in all and it is difficult, therefore, to follow the claim of the author that "the earlier chapters in each section of the book deal with purely qualitative phenomena and involve no mathematics or mechanics. These portions are complet[illegible] probably sufficient for very elementary [illegible]me of the abbreviations used would, we imagine, not be understood by "very elementary students," who would at all events have to possess a knowledge of the metric system and know that cm. meant centimetres and grs. grammes on the opening page. The book is, however, a very useful one addressed to students who have been trained in general scientific principles and who require to specialise in that department of physical science which is here dealt with.——An interesting little volume, dealing very briefly with the history of radio-activity and the properties of radio-active substances, is *Radium: Its Production and Uses.* By SYDNEY FAWNS, F.G.S. (London: The Mining Journal. 1913 Pp. 60.) It is intended for popular reading only, but it contains a bibliography of all the principal works in English which will be useful to those who wish to pursue the subject further.

The Cambridge Manuals of Science constitute a very useful series intended to give an accurate, yet popularly expressed, bird's-eye view of the essential subjects of which the various manuals treat. *The Life Story of Insects*, by Professor GEORGE H. CARPENTER (Cambridge University Press. 1913. Pp. 134. Price 1*s.*), expounds in a fascinating manner the facts of the various transformations undergone by insects.——*The Flea*, by Mr. HAROLD RUSSELL, B.A., F.Z.S. (Cambridge University Press. 1913. Pp. 125. Price 1*s.*), deals in an up-to-date manner with a special insect, which, besides being an unmitigated nuisance, is also a dangerous pest in at least one of its varieties, as a perpetuator and transmitter of plague. The book is the more interesting in that this particular insect has received little or no attention in English literature, while, according to the author, more species of fleas are now known from the British Islands alone than were known from the whole world some 30 years ago, when Taschenberg's "Die Flöhe" first appeared.

JOURNALS AND MAGAZINES.

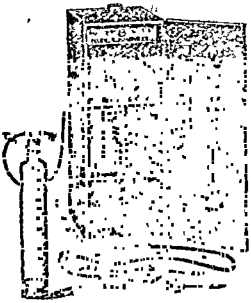
Annals of Tropical Medicine and Parasitology. Series T.M., Vol. VII., No. 3, B.—In this number of the Annals Dr. J. W. Scott Macfie, of the West African Medical Staff and Director of the Medical Research Institute, Lagos, contributes a short preliminary note on the development of a human trypanosome in the gut of Stomoxys nigra, a fly that infests the native towns of Nigeria. If, as seems probable, this fly is capable of serving as the intermediary host of trypanosomiasis, further investigations into the subject are very desirable.—Dr. W. Rogers supplies a very interesting note on a case of loa-loa, the case being his own; and his note *is in* reality a valuable account of the symptoms observed in his own person, his infection having been contracted some years ago while he was serving in West Africa.—Recent experimental research bearing upon blackwater fever is summarised in a brief paper by Dr. J. O. Wakelin Barratt.—A description of a fictitious native disease of Zululand, called "isigwebedhla," is given by Dr. G. A. Park Ross, Government pathologist and bacteriologist for Natal. He regards this alleged malady as the invention of some imaginative native "doctor," and believes it to be merely a name for the advanced stage of any acute febrile disorder.—Perhaps the most interesting contribution from the epidemiologist's point of view is the last in the number—namely, that on the vomiting sickness of Jamaica, by Dr. Harald Seidelin, illustrated by a number of plates and comprising over 100 pages of the Annals. It may be remembered that Dr. Seidelin was despatched to Jamaica to ascertain if this malady was related in any way to yellow fever. Though the prevalence was almost over by the time he reached the colony, he managed to see 62 cases. With five exceptions, to which he makes further reference, the evidence on the whole did not reveal any identity of the disease with yellow fever. He believes they were due to a specific organism for which he suggests the name of diplococcus jamaicensis, and which should be further investigated. In one of the five cases (a Chinaman) mentioned above he found a few ringed organisms resembling the paraplasma flavigenum, but they were not typical. Some of the other four patients had black vomit which had excited some suspicion, but it could not be said positively that they were instances of yellow fever, and no organisms were isolated.

Aberdeen University Review.—The first number of this review, to be published once a term by a committee of management representative of the University Court, the Senatus, the General Council, and the Students' Representative Council, lies before us. While not to be regarded as the official organ of the University, it is to be representative of the academic life in every direction. The present issue is a well got up review containing many interesting articles, none of which, however, in the present issue has any special bearing on the medical side of the university. The outstanding article is one by Lord Kennedy, entitled "Our Chancellor," accompanied by an admirable portrait of Lord Strathcona. Verses on Aberdeen by Mr. Thomas Hardy and Mr. William Watson are reprinted. The review will undoubtedly be of interest to graduates in all faculties of Aberdeen University. The price is 1*s.* 6*d.* each number, or 3*s.* 6*d.* per annum by subscription.

ERRATUM.—The title of Dr Arthur Bolles Lee's book reviewed in THE LANCET of Nov 29th, p. 1553, is *The Microtomist's Vade-Mecum*, not the Microscopist's Vade-Mecum, as printed.

New Inventions.

APPARATUS FOR THE PRODUCTION OF ARTIFICIAL PNEUMOTHORAX.



THE apparatus here illustrated had its origin in the rough but efficient model put together by a carpenter, the essentials of which were formed by two bottles some rubber tubing and two glass tubes, contained in a wooden box. The gradual evolution of various simple modifications are the result of practical experience gained by myself and my friends, Dr. C. Lillingston, Dr. L. Colebrook, and the colleagues who have worked with me at Mundesley. Between us w[illegible] given many [illegible] injections of nitrogen. The advantages of the apparatus, which is now made and stocked by Messrs. Allen and Hanburys, Limited, 48, Wigmore street, London, are as follows. Its simplicity eradicates as far as possible unnecessary complications which may only create difficulties in working. An even, easy, and perfect control of the gas is assured, because the bottles are movable and syphonage is used as the means of regulating the flow of nitrogen gas into the chest. The arrangement of a movable shelf in a tall box makes it easily possible to obtain well-graduated positive pressures up to any amount found safe in practice. The apparatus travels easily. The height of the apparatus gives room for a tall water manometer, the advantages of which are that the occasional high pressures needed are easily read; and secondly, that there is less risk of the fluid in the manometer, through any accident, flowing into the tubes. The [illegible] the administration [illegible] f[illegible] gas, which is advantageous for a first injection. The bottles contain a sufficient quantity of gas to meet the requirements of an injection for any ordinary case. The thistle funnel on the posi[illegible] prevents the fluid in the manometer from being sucked into the tube if through any chance a high negative pressure should occur. The marks both on the cylinder and on the part with the manometer on it are distinct and can thus be read at a glance. The screw clamp, put in at the suggestion of my friend, Professor Saugman, at the base of the manometer enables the mean intrapleural pressure to be taken during an injection of gas.

S. VERE PEARSON, M.D. Cantab., M.R.C.P. Lond.

Mundesley, Norfolk.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, NOV. 26TH.

THE Council resumed its sittings at its offices, 299, Oxford-street, W. Mr. TOMES was again elected to occupy the chair for the day's sitting in the absence of the President, Sir Donald MacAlister.

Penal Cases.

Consideration of complaints against the conduct of practitioners was then undertaken.

The Council first proceeded to the consideration (adjourned from May 28th, 1913) of the case of Alfred Benson, registered as of 79, Maida Vale, W., M.R.C.S. Eng. 1880, M B. U. Oxfd. 1880, who had been summoned to appear before the Council on the following charge:—

> That being a registered medical practitioner you were on January [illegible] t on your own con[illegible] having unlawfully, [illegible] nd represented that [illegible] pplications for passports for certain persons named Louis Kisenoyder and Lucas Kuschneyder respectively were true; for which offences you were fined £50.

At the conclusion of the proceedings on May 28th, 1913, the President announced the decision of the Council as follows:—"Mr. Alfred Benson: I have to inform you that the Council has found your conviction proved; that the Council takes a very serious view indeed of the gravity of the offence of which you have been convicted; and that it has already marked its sense of the gravity of such offences by issuing in the medical journals and elsewhere in November, 1911, a warning notice as follows:—

> [illegible] in certain cases bound [illegible] alled upon or requested [illegible] r professional capacity, [illegible] e or for administrative [illegible] employments [illegible]

In order to give you an opportunity to prove to the Council that you *realise the gravity of your offence*, and to produce evidence from your professional brethren regarding your character and conduct generally, the Council has postponed judgment till the November session, when you will be required to produce testimony to the effect above specified, and to your conduct in the interval."

Dr BENSON attended in person. He submitted testimonials as to his character and conduct generally and in the interval from Sir David Ferrier, Sir Malcolm Morris, Mr. James Ernest Lane, and Dr. W. H Willcox.

A letter was also read from the Rev. Alfred R With, of Maida Vale School, testifying to the high esteem in which Dr. Benson was held both as a medical man and a neighbour by residents in the district. His conduct was quite irreproachable.

[illegible] announced the decision of the [illegible] Benson, I have to inform [illegible] fit to direct the Registrar to erase your name from the Medical Register.

The Council proceeded to consider the case of James Morrison Orr, registered as of Beulah Grove, West Croydon, M.D. R.U.Irel. 1882, who had been summoned to appear before the Council on the following charge:—

> That being a registered medical practitioner you have knowingly associated in practice with an unqualified and unregistered person—namely, one Horatio Franklyn Sparling, and have knowingly authorised

or allowed the said Horatio Franklyn Sparling to exhibit a plate at 30, Northcote-road, West Croydon, with the inscription "Dr. H. F. Sparling" thereon above a plate bearing your name, and have thereby enabled the said Horatio Franklyn Sparling to attend and treat patients as if he were duly qualified and registered. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the Medical Defence Union, represented by Mr. W. E. Hempson, solicitor.

Dr. Orr appeared in person, and was accompanied by his solicitor, Mr. J. W. Marten, of Messrs. Edridge, Son, and Marten, Croydon.

Mr. Hempson addressed the Council. He stated that the association of Dr. Orr with H. F. Sparling had been mentioned at an inquest at Croydon. Mr. Sparling had no claim to any registrable qualification, but nevertheless his name had been put out at Northcote-road for some period of time. He would submit a statutory declaration from Mr. Sparling as to the relationship which had existed between him and Dr. Orr, and would place him in the witness-box.

Mr. Horatio Franklyn Sparling was the first witness. He stated that he had made a statutory declaration. That declaration, which was read by Mr. Hempson, stated that Mr. Sparling had about Oct. 14th, 1910, entered into a verbal partnership with the said James Morrison Orr, a medical practitioner. By that arrangement his father, Horatio Osmond Sparling, was to furnish and equip a surgery at 30, Northcote-road. He (Mr. H. F. Sparling) and Dr. Orr were to carry on the profession of medical practitioners and to divide the total income made in equal shares. He put up a plate outside the front door at 30, Northcote-road, with the inscription of "Dr. H. F. Sparling" thereon, above a plate bearing Dr. Orr's name. This he did with the knowledge and approval of Dr. Orr, although the latter knew that he had no medical qualifications and was not registered as a medical practitioner in accordance with the Medical Acts. The partnership did not prove a success. The declaration went on to state there was a temporary break in the partnership about March 6th, 1911, when Mr. H. F. Sparling told Dr. Orr to remove his plate. The plate was finally taken down on or about April 13th. 1911 However, Dr. Orr and he came together again, and Dr. Orr attended at 30, Northcote-road as occasion required, and he (Mr. H. F. Sparling) stated that he paid him as before, and there had never been any break in this arrangement, although for the last two years he (Mr. H. F. Sparling) had practically confined himself to optics. During the time that he was in partnership with Dr. Orr, the latter introduced him to various people as "my partner Dr Sparling."

Examined further by Mr. Hempson, Mr. Sparling stated that his declaration was correct in every particular. He also stated that Dr. Orr had acted as anæsthetist to him on two occasions.

Cross-examined by Mr. Marten, witness said that he had formerly been a dispenser, and he had been with a practitioner in New Zealand almost two years.

In what capacity?—As a general assistant.

Witness admitted that before entering into the arrangement with Dr. Orr he had told him that he wanted to become a medical practitioner. Dr. Orr had told him that he was desirous of obtaining a surgery.

Mr. Marten: Dr. Orr suggested that if a surgery could be obtained you should join him as dispenser.

Witness: No.

I put it to you and you deny it?—Yes.

I put it to you that he undertook to get you through a preliminary examination?—No.

Mr. Horatio Osmond Sparling, 30, Northcote-road, West Croydon, father of the previous witness, also gave evidence. His statutory declaration, which was also read by Mr. Hempson, set out that at the beginning of October, 1910, Dr. Orr called upon him at his house and told him that he and his son, Horatio Franklyn Sparling, had arranged to start a medical practice if he would assist them in fitting up and stocking a suitable place as a dispensary. He asked Dr. Orr if he was aware that his son was not qualified as a medical practitioner, and Dr. Orr replied, "He is a smart young fellow, and it will be all right." He accepted this assurance and took 30, Northcote-road, furnished a dispensary, paid for the necessary drugs, arranged for a red lamp to be fitted outside the house and the hours of attendance to be put on the window. He also spoke as to the plates. Dr. Orr's plate was finally removed and his son, Mr. H. F. Sparling, devoted his time principally to optics, although Dr. Orr came to 30, Northcote-road on various occasions for consultations with his son.

Answering Mr. Hempson, witness maintained that his declaration was correct.

Cross-examined by Mr. Marten, witness admitted that he had known that an unqualified person could not practise as a physician and surgeon.

You fitted up the surgery?—Yes.

I suggest to you that the real story Dr. Orr told you was that he had arranged to take your son as a dispenser, and that he was to coach him for his examinations.—I warned Dr. Orr that my son was not qualified.

In spite of that you put money into the affair?—It did not amount to much.

In spite of your doubts you put your money in?—Yes.

This concluded the complainants' case.

Dr. James Morrison Orr then gave evidence on his own behalf.

Mr. Marten read to him a statement which had been submitted on Dr. Orr's behalf in answer to the notice of inquiry. That statement was to the effect that Dr. Orr had never knowingly associated in practice with an unqualified and unregistered person, Horatio Franklyn Sparling. About the middle of October, 1910, it was agreed that Horatio Osmond Sparling should bear the expense of fitting up and stocking a suitable place as a dispensary, and that Dr. Orr should carry on a practice there, and that H. F. Sparling should act as dispenser and attendant. Dr. Orr was to assist in preparing H. F. Sparling in preliminary and further studies to enable him to become a qualified medical practitioner. Dr. Orr commenced attendance at 30, Northcote-road, with H. F. Starling as his dispenser and attendant. He had never knowingly authorised or allowed H. F. Sparling to exhibit a plate at 30, Northcote-road, with the inscription of "Dr. H. F Sparling." The latter, without the knowledge or consent of Dr. Orr, had put up a plate, and in spite of his remonstrances refused to remove it when requested to do so. In consequence of the repeated refusals of H. F. Sparling to remove his plate there were continual disputes between him and Dr. Orr, and in March, 1911, Dr. Orr took down his own plate and ceased to attend at the dispensary. On the assurance of H. F. Sparling that he would remove his plate and seriously devote himself to study Dr. Orr again put up his plate at the dispensary. However, as H. F. Sparling's plate was not taken down, Dr. Orr removed both plates about April 13th, 1911, and his plate had never since been affixed to the premises. He had never since resumed practice there. Dr. Orr had not by any means whatever enabled H. F. Sparling to attend and treat patients as if he were duly qualified and registered. After H. F. Sparling had put his plate up Dr. Orr made it his business to warn persons who were likely to consult Sparling that the latter was an unqualified person.

Answering Mr. Marten, Dr. Orr said that that statement was quite correct.

Cross-examined by Mr. Hempson, witness maintained that H. F. Sparling acted in no other capacity than as dispenser and surgery attendant under his supervision. He had no authority to see patients.

What remuneration was he to receive for that?—Nothing whatever. I was to coach him for his preliminary examinations.

Witness denied that he ever introduced Sparling as his partner. He had never attended patients with him. He did not look upon him as a partner at all.

Do you deny that you were called into consultation to see a case with him and that you notified it?—I notified a case which I saw myself.

What was his position in relation to you after April, 1911?—Nothing at all.

Witness admitted that he gave an anæsthetic in one case, and he was very sorry for it. He admitted also that he sometimes had got sums of a shilling or eighteenpence from Sparling, but there never was such a thing as a settlement of accounts.

Mr. Marten then addressed the Council on Dr. Orr's behalf.

The Chairman (Mr. Tomes) intimated the decision of the Council as follows: Mr. Orr, I have to announce to you that the Council have found the facts alleged against you in the notice of inquiry to have been proved, and have directed the

Registrar to erase from the Medical Register the name of James Morrison Orr.

The Council adjourned.

THURSDAY, NOV. 27TH.

[illegible] offices, 299, Oxford-st [illegible] ected to occupy the ch [illegible]

A letter was read from Sir Donald MacAlister acknowledging the resolution of the Council in regard to his health.

Penal Cases.

The Council again considered complaints against the conduct of practitioners.

The first case to be considered was that of Harry Roberts, registered as of 63, Harford-street, Stepney, E., L S.A. Lond., 1895, who had been summoned to appear before the Council on the following charge:—

> That being a registered medical practitioner you have given, under [illegible] Regulations, 1911, on Form of [illegible] of Health for the Metropolitan [illegible] four cases following—namely: [illegible] Dorothy Phillips (or Philips), dated Oct. 1st, 1912; Albert (or Albert Edward) Wright, dated Dec. 25th, 1912; and Edward (or William Edward) Hartshorn, dated Jan. 22nd, 1913, all of which notices were untrue, misleading, or improper. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the Stepney borough council, who were represented by Mr. Hart, instructed by Mr. G. H. Young, solicitor.

Mr. Roberts appeared in person and conducted his own defence.

Mr. HART, in addressing the Council, stated that the complaint had reference to certain cases in which it was alleged that Mr. Roberts had notified persons for tuberculosis under the order of the Local Government Board. In the first case, that of Alice Peacock, it was stated that at the time he made the notification he had not seen her. According to a statutory declaration this child's mother had told him that Alice was an out-patient at the Victoria Park Chest Hospital. In the second case, that of Dorothy Phillips, the child was brought to Mr. Roberts's surgery to be vaccinated, but it was stated that the clothes had not been removed for the examination of the chest. In the other two cases Mr. Roberts had notified for tuberculosis, but in other certificates granted about the same time it was stated that these persons suffered from other diseases. Counsel said that he would not press the point that a fee attached to the making of notifications, although that was an added reason for care. He would point out that the notification of tuberculosis in such cases led automatically to the expenditure of public money and also to domiciliary visits to the patients and to inquiries. Steps of this kind did cause when the notices did turn out to be misleading dissatisfaction amongst a class which it was difficult at all times to get to coöperate with the public health authorities. He understood that Mr. Roberts considered himself ill-used.

Mr. D. L. THOMAS, medical officer of health to the borough of Stepney, gave evidence to the effect that the notices in question in the case had been received from Mr. Roberts.

Mr. ROBERTS remarked that he admitted that they had been sent.

Cross-examined by Mr. ROBERTS, witness said that it was desirable that tuberculosis when it was diagnosed should be notified.

Mr. ROBERTS: You think it is better in certain cases of doubt that it should be notified, especially if there is strong suspicion.

Mr. THOMAS: That is another point. It would no doubt be better if in every case the patient was examined by an expert, so that the patient's friends should be relieved of any anxiety, but in tuberculosis steps are not always taken to examine the cases that are notified. I do not think that one is justified in notifying cases where there is any doubt without calling in a second opinion.

Mr. T. J. EVANS, chairman of the Stepney public health committee, in the course of evidence stated that apart from the case now under the consideration of the Council he had never heard anything against the professional reputation of Mr. Roberts. Personally, he did not think that Mr. Roberts did notify these cases for the purpose of getting the fee.

Mr. ROBERTS: You think I acted in good faith?

Mr. EVANS: From my own personal knowledge of you I should say that you acted in good faith.

Mr. ROBERTS then offered to the Council his explanation of the four notices. He said that in conjunction with four colleagues he had a very large practice in the East-end. He saw very many persons professionally in the course of the year. So far as notification of tuberculosis was concerned he took it that the whole object of the Act was to bring to the knowledge of the public health authorities every case of tuberculosis. He was of opinion that by notifying every case which he thought tuberculous he would be achieving that result. Certainly notifying a case of tuberculosis did not popularise a medical man. In the course of his practice he could say that there had not been a complaint by a patient of his lack of skill or attention. In regard to the particular cases now before the Council, he came to the conclusion when he saw them that the last two persons were suffering from tuberculosis. Other diseases could and did exist simultaneously with tuberculosis. Dorothy Phillips was brought to him for vaccination, and the mother had told him particulars of her health and that she was being treated for tuberculosis at the Victoria Park Hospital. He saw the child and accepted the mother's statement and notified the case. As to Alice Peacock, he would admit that he should not have deliberately reported the case. The notice was evidently inadvertently sent. The case occurred in July, 1912, and he did not hear of the matter until 1913. The mother had told him certain matters as to relatives. He was convinced that some carelessness must have occurred in this case. He regretted it. It had never happened before and would never happen again. The only thing one could do was to note one's [illegible] good faith. He urged that in three of the four cases his action was entirely regular. In the fourth case any error was purely accidental. In this case there were so many presumptions as to tuberculosis that he was bound to make a note of it. (Mr. Roberts afterwards went into the witness-box and submitted himself to cross-examination.)

The CHAIRMAN (Mr. Tomes) announced the decision of the Council as follows: Mr. Roberts, I have to announce to you that the Council does not see fit to direct the Registrar to erase from the Medical Register the name of Harry Roberts.

The Council then proceeded to consider the case of Thomas Francis Roche, registered as of 24, Eden-street, Kingston-on-Thames, L.R.C.P. Edin., 1892, L.R.C.S. Edin., 1892, L.F.P.S. Glasg., 1892, who had been summoned to appear before the Council on the following charge:—

> That you abused your position as a medical man by committing [illegible] officials of the High Court.

Mr Roche attended and was accompanied by Mr. J. P. Hope, solicitor, Cardiff.

Mr HARPER (the Council's solicitor) asked permission to amend the notice by inserting after "husband" the words "and household."

No objection to this course was taken by Mr. Hope.

Mr. HARPER then submitted to the Council evidence of the decrees. He remarked that the only issue which the Council had to consider was whether Mr. Roche had abused his position as a medical man.

Mr J D. STUART gave evidence He stated that he had been married to Mrs. Stuart in 1902, and they had lived at Penarth, Dinas Powis, and Cardiff. He said that Mr. Roche had attended in the capacity of a medical man himself and his wife. In 1908 he had become very friendly with Mr. Roche, and had regarded him both as his medical man and his friend. He asked the Council, in conclusion, to mitigate any judgment which it might deem necessary because he believed that Mr. Roche intended to marry Mrs. Stuart.

The further hearing of the case was adjourned, and the Council rose.

FRIDAY, NOV. 28TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W., Mr. TOMES being again chosen to act as chairman in the absence of the President.

Apothecaries' Hall, Dublin.

A report was received from the Executive Committee calling attention to correspondence with the Privy Council in regard to the Apothecaries' Hall of Ireland. The petition of the Apothecaries' Hall of Ireland, dated July 7th, 1913, had not been entertained by the Privy Council.

The Examination Committee presented another report on a letter of the Apothecaries' Hall, Dublin, commenting on the Council's treatment of its examinations. The Examination Committee's report contained extended observations on that letter. Sir Charles Ball in his speech brought those observations to the notice of the Council.

Sir **CHARLES BALL** moved :—

[illegible] to transmit the report [illegible] Most Honourable Privy [illegible]

He said that the report of the Examination Committee dealt with a letter which was received from the Apothecaries' Hall, Dublin, in answer to a former report of the Examination Committee which was received by the Council in May last. The letter was a remarkable document, and it was beyond belief that a responsible body like the Apothecaries' Hall would have replied in such terms to the Council It contained a very large number of inaccuracies which the Examination Committee felt it was its duty to report to the Council. In the first place, the Apothecaries' Hall complained that the Examination Committee had exceeded the reference which was made to it. That he denied. The Committee some time ago considered whether, in view of information before it, exceptional supervision of this body was still necessary, and also whether the best form of supervision was by the reports furnished by the assistant examiners. The committee reported accordingly. Sections 3 and 4 of the letter from the Apothecaries' Hall charged the General Medical Council with unworthy motives in their dealings with the Apothecaries' Hall of Dublin. The committee felt sure that it would be the desire of the Council to leave unnoticed charges which had been so recklessly made, but in supposed support of their contention the Apothecaries' Hall had cited certain acts of the Council which they say "have had a most damaging effect on the prosperity and finances of the Hall," and for which "no authority can be found under the Medical Acts." As these allegations contained grave misstatements of facts the committee considered that certain assertions should be answered in detail. The first "acts of the Council for which no authority can be found under the Medical Acts" were stated by the Apothecaries' Hall to be "varied and continuous inspections and reports." However, the committee relied on sections of the Medical Acts which, in its opinion, furnished the Council with ample statutory authority for the inspections and reports complained of. Section 18 of the Medical Act of 1858 gave the Council power to appoint persons to attend and be present at examinations. It was obvious that the purpose of appointing them was that they should report to the Council what they observed at such times. Section 3 (2) of the Medical Act of 1886 empowered the Council to appoint inspectors only for the final qualifying examination. Under Section 5 (2) of the same Act it was the duty of assistant examiners to secure at the examinations the maintenance of the requisite standard of proficiency in medicine, surgery, and midwifery. They were to perform such duties in the conduct of the examination as the General Medical Council might prescribe. Although the words "inspect" and "inspection" had been occasionally used in describing the duties of the assistant examiners, they were not at any time appointed inspectors under Section 3 of the Medical Act of 1886 The appointment of Dr. Finny in 1913 to visit and furnish reports on the professional examinations held by the Apothecaries' Hall, other than the portions conducted by the assistant examiners, had been made under the authority of Section 18 of the Medical Act, 1858. That disposed of the charges It showed that the claim put forward by the Apothecaries' Hall, that these appointments had been made illegally, had no substance in it. Again, the Apothecaries' Hall said that in the past assistant examiners had acted after their period of office had expired, but it was the case that no definite period of office was assigned to them. Later a system of rotation was instituted. The objection which was brought forward now was not made at the time. In 1899 the Apothecaries' Hall asked to be relieved of the payment of fees to the assistant examiners except for days when they were actually engag[illegible] The Council assented to this r[illegible] the assistant examiners fees for duties discharged by them under Section 5 other than actual services in conducting [illegible] and had since paid under this head [illegible] past few years upwards of £100 a [illegible] 5 (3) the Apothecaries' Hall were liable for the whole remuneration payable to the assistant examiners had the Council so determined, and it was difficult to see how this arrangement could have had "a most damaging effect on the prosperity and finances of the Hall" The Apothecaries' Hall attributed the small number of candidates who selected the Hall for the whole of their professional examinations to the action of the Council in refusing recognition to its preliminary arts examination The Hall was free to require of its candidates such qualification in arts as it thought desirable, but it had no right to claim that its preliminary examination should be accepted by any other authority. In conclusion having recapitulated those and other matters dealt with in the report of the Examination Committee, Sir Charles Ball intimated that the committee understood that Dr. J. Magee Finny had been deputed by the Council to be present under Section 18 of the Medical Act of 1858 at the examinations other than surgery of the Apothecaries' Hall, and that the assistant examiners, Mr. Conway Dwyer and Mr. Maunsell, had been requested to report on the surgical portions of the examination which they conducted The committee therefore considered it desirable to await the receipt of these reports before the Council decided what, if any, further action it desired to take. The committee had learned that the Apothecaries' Hall had petitioned the Privy Council against what they called the "organised persecution" of that body by the Medical Council, and that the President, in transmitting to the Privy Council a reply framed by the legal advisers in answer to the petition, enclosed copies of the published report of the Examination Committee. The committee therefore thought that their lordships should have the opportunity of seeing the reply of the Apothecaries' Hall to that report, and the criticisms of the Examination Committee thereon.

Dr. **NORMAN WALKER** seconded the motion.

Dr. **ADYE-CURRAN** said that he wished to say a few words on behalf of this unfortunate body which had been so much maligned. Sir Charles Ball surely recognised that a serious muddle had been made. Dr. Finny had been described by the Irish Branch Council as an "inspector." The members of the Council knew perfectly well the meaning of the English term "inspector." He was to inspect examinations. Nobody other than an inspector could be paid. He did not want to deprive Dr. Finny of the 50 guineas which was to be paid to him for his work. He knew him well and had the very highest esteem for him; in fact, he was his own medical adviser in Dublin But if the Apothecaries' Hall was to be penalised, let it be done legally. It was under the Medical Act of 1886 that an inspector was appointed, and a person appointed under the Medical Act of 1858 was not an inspector He might be called a visitor, but he was not entitled to be paid The fact that Dr. Finny was to receive 50 guineas showed that he was an inspector. It might be that he was a sort of an inspector, but that explanation was not good enough for the General Medical Council. If Dr. Finny reported as an inspector he would be reporting without being appointed as such

Sir **JOHN MOORE** maintained that Dr. Finny was quite validly appointed to report upon the examinations prior to the final.

Dr. **SAUNDBY** asked what powers the Council had to expend the money on this matter.

Sir **CHARLES BALL** replied that by statute expenses might be incurred for the administration of the Act of 1858.

Dr **MACKAY** stated that the Council had time after time examined the first professional examinations of various bodies and it had paid the examiners.

The motion was carried by 26 votes to 2. Four members present did not vote.

A motion, proposed by Dr. **ADYE-CURRAN** and seconded by Sir **CHARLES BALL**, "That the question of the legality of the appointment and payment of Dr. Finny be referred to the legal advisers of the Council," was rejected. Seventeen members voted against it, 8 voted in favour of it, and 8 members present refrained from voting.

The Examination Committee submitted to the Council the reports of the final examinations in surgery of the Apothecaries' Hall, Dublin, held in July and October by the assistant examiners in surgery, Professor Conway Dwyer and Mr. R. O. B. Maunsell. In the report the assistant examiners remarked:

If he rejected any action for damages against him, as he had not been legally appointed as examiner.

The following letter was appended to the report:—

Apothecaries' Hall of Ireland, Mary-street, Dublin,
July 24th, 1913

R. O. B. Maunsell, Esq.
SIR,—On behalf of th

inasmuch as you

nt.

(Signed) G. ADYE-CURRAN,
Representative of the Apothecaries' Hall of Ireland
on the General Medical Council

The report of the Examination Committee drew the attention of the Council to this matter. It stated that—

The Committee are of opinion that any formal protest against the appointment of an assistant examiner in surgery should have been made, not to the examiner, but only to the Council.

Dr. ADYE-CURRAN said to the Council that in this instance the Council did not appoint. The gentleman who acted was nominated by the Irish Branch Council and appointed by the President, which he (Dr. Adye Curran) held was not in accordance with the form laid down in the Act.

The Council received the reports

Examinations for the Services.

A report was received from the Examination Committee on the returns as to examinations for the Services received since the last session of the Council. It contained the following observations:—

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Exemptions to Students.

A report was received from the Examination Committee on exemptions granted by British licensing bodies to students who had taken part of their examinations at institutions whose qualifications did not entitle to registration in the United Kingdom.

Public Health Committee.

Mr. Verrall was appointed a member of the Public Health Committee in place of Dr. Lorrain Smith.

Pharmacopœia Committee's Report.

The Pharmacopœia Committee reported to the Council as follows:—

pared have been sent to press, and are at present in type, undergoing revision. It is hoped that the appendix and the concluding parts of the draft will be ready for consideration early in the new year.

Public Health Committee.

Sir JOHN MOORE submitted a report from the Public Health Committee in the following terms:—

The committee had under consideration a

their two years' study. In every respect they satisfy the rules of the Council.

The committee recommend the Council to authorise the registration of the M.H. degree of the University of Liverpool as a qualification in public health

legal adviser on the question of amending the rules for Diplomas in Public Health as suggested, and on the general bearing of such an amendment or amendments.

On the motion of Sir JOHN MOORE, seconded by Dr. NEWSHOLME, the Council adopted the recommendation of the committee to authorise the registration of the M.H. *degree of the University of Liverpool as a qualification in* public health.

Leave was accorded to the committee to consult the legal adviser on the question of amending the rules for Diplomas in Public Health as suggested, and on the general bearing of such an amendment or amendments.

Students' Registration Committee.

A report was submitted from the Students' Registration Committee.

Penal Case.

The Council resumed the consideration (adjourned from the previous day) of the case of Thomas Francis Roche.

Mr. ROCHE gave evidence on his own behalf. He admitted that he had attended both Mr. and Mrs. Stuart as a medical man. Social intimacy had sprung up between his family and the Stuarts. The locality in which they had lived, Dinas Powis, was a small village, and his association with the Stuarts was not due to his professional capacity, and if Mr. and Mrs. Stuart had not been ill the same social intimacy would have gone on. This intimacy was intensely close. At dances and social events they were practically always together.

Mr. HOPE: Take the whole of the payments from the Stuart family how much did you receive?

Mr. ROCHE: About £35.

Mr. HOPE: You say about £35.

Mr. ROCHE: That is including a cheque for £10 which I returned. The amount included some coal which I shared.

Mr. HOPE: That is to say, an average of about 10*s.* a month?

Mr. ROCHE: Yes.

Mr. HOPE: Or about two visits a month?

Mr. ROCHE: Yes. I charged 5*s.* a visit. That would be about twice a month.

Mr. HOPE: Apart from that you were visiting them socially?

Mr. ROCHE: Yes, a great deal.

Mr. HOPE: At any time during this period had you any complaints from Mr. Stuart as to your visits to the house?

Mr. ROCHE: I was always made welcome.

Mr. HOPE: Were you accustomed to drop into the house?

Mr. ROCHE: I was accustomed to step in, in the evening especially, when I thought Mr. Stuart was at home.

Mr. HARPER (cross-examining): I do not understand your line of defence. I understand that professional relationship existed from 1906 to 1911. I understand that increasing social intimacy existed during the greater part of that time.

Mr. ROCHE: Yes.

Mr. HARPER: Is it your plea that your social and professional intimacy was such that you were able to do what you have done?

Mr. ROCHE: I plead that the social intimacy was such that I was able to do so.

Mr. HARPER: And that, then, is your defence.

Answering Mr. BODKIN (the legal assessor), Mr. ROCHE for the six months

He had then sold

TUART also gave evidence, and stated that the
s which Stuart and Roche did
out of
IOPE, on behalf of

Mr. Roche, said that friendship, and friendship alone, was what drew the parties together. The evidence showed that in every way friendship outweighed any medical attendance ever given by Mr. Roche to Mrs. Stuart.

Mr. HARPER said that the defence showed a great misapprehension of the charge which concerned the professional relationship. The attempt to make social intimacy outweigh professional relationship seemed to him quite impossible and hopeless.

The CHAIRMAN (Mr. Tomes) announced the decision of the Council as follows: Mr. Roche, I have to announce to you that the Council do now judge Thomas Francis Roche to have been guilty of infamous conduct in a professional respect, and do direct the Registrar to erase from the Medical Register the name of Thomas Francis Roche.

The Council adjourned.

SATURDAY, NOV. 29TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Mr. TOMES, in the absence of the President, again was elected to the chair.

Penal Case.

The Council proceeded immediately to the consideration of the case of John Edward Sang, registered as of 330, New Cross-road, London, S.E., L R.C.P. Edin. 1889, L.R.C.S. Edin. 1889, L.F.P.S. Glasg. 1889, who had been summoned to appear before the Council on the following charge:—

> That being a registered medical practitioner you were at the General Session holden at the Central Criminal Court on Sept. 2nd, 1913, convicted of feloniously and unlawfully using certain means unknown with intent thereby to procure miscarriage and sentenced to 12 months' imprisonment with hard labour.

Mr. Sang did not appear, nor was he represented.

Mr. HARPER (the Council's solicitor) recalled the circumstances of the conviction.

The CHAIRMAN (Mr. Tomes) announced the decision of the Council as follows: John Edward Sang having been proved to have been convicted of the felony alleged against him in the notice of inquiry, the Registrar has been directed to erase his name from the Medical Register.

An Erasure from the Medical Register.

The Council considered, under Standing Order XVI., 2, the case of Ralph Raby, formerly holding the qualifications of M.R C.S. Eng. 1903, L.R C.P. Lond. 1903. Mr. Raby was removed from being a Member of the Royal College of Surgeons of England on April 10th, 1913. His Licence was withdrawn by the Royal College of Physicians of London on Oct. 30th, 1913. The Registrar had been informed by both of the Colleges that the qualification was removed in consequence of the issue of objectionable advertisements, and not on the ground of his having adopted any theory of medicine or surgery (Medical Act, 1858, Sec. 28). The Executive Committee recommended that in pursuance of Standing Order XVI., 2, and the powers of the Medical Act, 1858, the Acting President put from the chair a resolution to the effect that Mr. Raby's name be removed from the Register. The Standing Order XVI., 2, read as follows:—

> If, under the direction of the Council, all the qualifications of any registered medical practitioner have been erased from the Medical Register, then the Council shall, if it thinks fit, by formal resolution put by the President from the chair, direct the Registrar to remove the name of such practitioner from the Medical Register.

Mr. Raby did not appear.

The CHAIRMAN said that this gentleman's qualifications had been withdrawn by the bodies who conferred them. He was, therefore, now without qualifications. When the standing order was considered, the legal opinion given by Mr. Muir Mackenzie was that it was not only in the power of the Council to remove the name when the qualification was removed, but that that was the proper course for it to take, provided always that the removal of the qualification was not due to the person concerned having adopted any theory of medicine or surgery.

Mr. HARPER (the Council's solicitor) pointed out that the only matter which the Council had to notice now was whether the person affected had lost his qualification on the ground of his having adopted any theory of medicine or surgery. Each of the Royal Colleges which granted the qualifications in this case had been written to, and they replied that the removal was not on that ground. It was, on the contrary, stated that the qualification was withdrawn for advertising.

The REGISTRAR stated that the advertisement in question had appeared in an Australian paper.

Dr. SAUNDBY: Has notice been given to the practitioner?

The REGISTRAR: A registered letter has been sent to him, and it has been returned through the Dead Letter Office.

Dr. SAUNDBY asked whether the Council could not have the name taken off under another section of the Act.

The REGISTRAR said that if the name was taken off under this section, an intimation was sent to certain of the Colonial authorities.

Dr. NORMAN WALKER suggested that as this was a very rare case it would be wise to put the motion in the words used on the former occasions.

The REGISTRAR said that no such case had arisen since 1886.

Mr. VERRALL thought that if the Council was to review the decision of the Colleges it should have the advertisement before it.

Dr. NORMAN MOORE pointed out that if the Council left the name on the Register it could not leave the qualifications.

At this point, on the motion of Dr. SAUNDBY, the Council considered the case further *in camerâ.*

The CHAIRMAN afterwards announced the decision of the Council as follows: Ralph Raby having been deprived of all the qualifications in virtue of which he was registered, and the Council having satisfied itself that these qualifications were not taken away in consequence of his having adopted any theory of medicine or surgery, the Registrar is directed to erase the name of Ralph Raby from the Medical Register in pursuance of the provisions of the Medical Act of 1858.

Medical Men and the Signing of Notifications.

Sir JOHN MOORE moved to amend the Warning Notice relating to "certificates" as follows:—

> (i.) In the Preamble to the Notice, after the word "Certificates" insert the words "*notifications or documents of a similar character.*"
> (ii.) In the list of "Certificates" after (*j*) insert "(*k*) Under the Notification of Infectious Disease (1889) Act, the Infectious Diseases Prevention Acts of 1890 and 1896, and in regard to the Notification of Tuberculosis."

The text of the Warning Notice as to the signing of certificates appears in the report of the Council's proceedings on Wednesday, Nov. 26th.

Sir John Moore explained that there was no provision in the Council's warning notice as to the notification of infectious diseases. It seemed to him that complaints in regard to this matter might in the future be brought before the Council, and it would be well clearly to specify it in the notice. If his first amendment of the notice were adopted the preamble would read:—

> Whereas registered medical practitioners are in certain cases bound by law to give, or may be from time to time called upon or requested to give, certificates, notifications, or documents of a similar character signed by them in their professional capacity, for subsequent use either in courts of justice or for administrative purposes.

If the second amendment of the notice were carried the Acts to which it referred would be specifically enumerated.

Mr. PYE-SMITH seconded.

Dr. NEWSHOLME agreed with the principle involved in Sir John Moore's motion, but as a matter of detail he would point out that it did not cover all the Acts dealing with the notification of infectious diseases. Notifications in London were made under a special local Act. Notifications of cerebro-spinal fever were made under a special Order of the Local Government Board. It was therefore desirable to modify the wording suggested by Sir John Moore. He would suggest that the form should be "Acts and Regulations relating to the notification of infectious diseases, including tuberculosis."

Sir JOHN MOORE said that he would accept that form of words instead of his own.

Mr HARPER (the Council's solicitor) observed that the first thing to remember was that these notifications were not certificates at all. They were merely notifications of opinion. That would imply some alteration of phraseology in the warning notice. If possible it might be better to mention the various Acts, because if an Act was not specifically mentioned in the warning notice the practitioner might be apt to think that the notice did not apply to that Act. The mention of particular Acts would strike the mind of the practitioner more vividly than general words would.

Dr. LATIMER pointed out that the difficulty which the Council ran up against in dealing with this matter was that the legislature was always adding fresh Acts requiring certificates and notifications.

Dr. MACDONALD suggested that the Council should pass the motion in general terms and leave it to the legal advisers to draw up the form of the notice.

Sir HENRY MORRIS did not think that the Council should draw up the notice too generally.

The CHAIRMAN suggested that the Council should take the motion with the modification which Sir John Moore had accepted in regard to the second part, and then refer it to the Public Health Committee with power to act in conjunction with the legal advisers in putting it into shape.

The Chairman's suggestion was agreed to.

National Health Insurance Act Committee.

The CHAIRMAN said that the National Health Insurance Act Committee had held a number of meetings this session under the chairmanship of Dr. Langley Browne in the absence of the President. The Committee desired to report to the Council, but circumstances rendered it very inadvisable and in fact impossible to communicate to the public at this stage exactly what the Committee had done and was doing.

Dr. LANGLEY BROWNE remarked that he had intended making much the same statement as the chairman had made. He would now move that the minutes of the National Health Insurance Act Committee should be read to the Council *in camerâ*, and the Council would then be in a position to decide what action would be taken.

The Council accordingly sat for some time *in camerâ*.

When the public sitting was resumed,

Dr. LANGLEY BROWNE moved that the letters which the Council had been considering *in camerâ* should now be read.

This having been agreed to, the REGISTRAR (Mr. King) read a letter which the President had addressed to the secretary of the Joint National Insurance Commissioners. It was in the following terms:—

> 299, Oxford-street, London, W., March 14th, 1913.
>
> DEAR SIR,—The attention of the Executive Committee of the [illegible]
>
> service. [illegible]
>
> DONALD MACALISTER, President.

The following is the text of the appended warning notices:—

> [illegible]

[illegible]

practitioner mentioned to him in connexion with this matter. The date of the letter was 1913, and its terms were as follows:—

> [illegible] sioners, together with a copy of the warning resolutions it has issued. [illegible]

The REGISTRAR read another letter which he had addressed on Nov. 26th to the secretary of the medical aid society with whom the practitioner was connected. Neither the name of the practitioner nor of the medical aid society was divulged. The letter read as follows:—

> My attention has been drawn to posters issued by your society on one of which the name of —— appears in large letters, and on others of which, although the name does not appear, advertisements with regard to medical attendance are printed. I have been directed to bring to your attention letters addressed by the General Medical Council to the National Insurance Commissioners and to warning resolutions with regard to advertisements and canvassing, a copy of which I also enclose. I have to point out that any medical practitioner who is *proved* to have been connected with any society afford- [illegible]

Mr. VERRALL thereupon moved:—

> [illegible]

He said that he proposed this motion because the Council would desire to exercise its duty in the direction of guiding medical practitioners in paths of safety rather than in exercising discipline after they had wandered from those paths. The issue of transfers in bulk did directly lead to canvassing and its consequences. He would like to add that he hoped the Commissioners would not suppose that in passing this resolution the Council had any desire to do anything that would hamper them in the course of their work. He hoped also that the Commissioners would, so far as in them lay, desire to coöperate with the Council in carrying out this resolution.

Dr. MACDONALD seconded, and mentioned that in the country there was evidence that the practice which the Council desired to suppress was likely to be a glaring offence unless it was checked.

Dr. LATIMER observed that his attention had also been drawn to the fact that the result of giving these transfers in batches had shown that there was a grave danger that medical men who wished to work the Act in a regular manner would be drawn into the vortex. The object of the motion was to prevent a contingency of that kind.

The motion was carried unanimously.

On the motion of Dr. NORMAN MOORE, Mr. Verrall's name was added to the National Health Insurance Act Committee. It was highly important, Dr. Norman Moore said, that the committee should have all the information possible.

Conclusion of Session.

The business of the session being now concluded a vote of thanks was given to Mr. Tomes for his services in the chair.

The CHAIRMAN thanked the members for the consideration which they had shown him.

The Council then rose.

ERRATUM.—In our issue of last week, p. 1589, the first of the two practitioners whose names were restored to the Medical Register should have been James Williamson Skelley, and not as printed.

THE LANCET.

LONDON: SATURDAY, DECEMBER 6, 1913.

The National Insurance Act: The New Draft Regulations.

THE National Insurance Act was passed in circumstances which precluded criticism and alteration of its provisions in detail, and as the Bill originally drafted on behalf of the Government had been framed without any consultation with representative members of the medical profession the natural difficulties which might be expected to impede the smooth working of any measure of such comprehensiveness were greatly, we might say incalculably, increased. The Insurance Commissioners, under the very extensive powers given them, made Regulations necessary for the administration of medical benefit by the newly formed machinery, and before anyone had become sufficiently familiar with the process of working for their merits or defects to be fully appreciated either by Insurance Committees, or by the medical men who entered into agreements under them, the Insurance Act, 1913, introduced amendments and additions to the principal Act which required, or at all events have produced, a fresh set of draft Regulations and agreements. The Regulations have been published, and are to come into force early in January, 1914.[1] The publication can be purchased so cheaply that we may take it for granted that all our readers have a copy.

It has occurred to some that the postponement of the making of new Regulations even for a brief period might have enabled them to secure general acceptance as representing the views of the profession so largely interested in them; but as matters now stand the time allowed for criticism of points in them likely to produce friction and dissatisfaction is short in the extreme. That they should excite adverse criticism is almost inevitable owing to the manner in which the original Act was passed, after having been initiated, as we have pointed out above, without any attempt to secure the concurrence of the medical profession, upon whose members the burden of rendering it workable and effective was to be thrown. When the measure was in Bill form it was immediately and unceasingly pointed out that it provided flat rates of insurance and of payment for medical benefit for an enormous section of the population, one part of which had before paid little or nothing for medical treatment, but another part of which had paid contentedly the fees asked by their medical attendants and had received attendance in return; precisely as do wealthier members of the community who pay fees proportionate to their means. These private patients now brought under the Insurance Acts have in many instances placed themselves upon the lists of practitioners on the panels, but at the same time some have desired to pay extra fees for treatment upon their former footing as private patients rather than join the throng of panel patients. Medical men on the panels have met their wishes, and it has not been shown in any case that worse treatment from a medical point of view has been the result for those not paying extra fees. But in response to a feeling that here there was room for abuse, in the new draft agreement between medical practitioners and insurance committees there is the proviso:—

> 2 (ii.): The practitioner shall not accept any fee or other remuneration in respect of treatment which he is required to give under this agreement, except as provided in this agreement.

This clause has given dissatisfaction to practitioners,[2] who honestly and honourably have treated all their patients to the best of their ability, whether receiving an extra fee or not, in panel practice. The East Suffolk Insurance Committee have endorsed the view that the word "accept" should be replaced by "demand," and in some places medical service may be hard to get unless this change is made. Doubt has existed whether under the Insurance Acts as they stand the Commissioners could lawfully sanction any extra payment by panel patients being either asked for or even accepted, for the fact of it being accepted would always lead to the suggestion that it was asked for, and that the consideration offered was better medical treatment. The Commissioners, however, are clearly willing to take a broad view, for in response to representations made by the Kent and Surrey Insurance Committees they have indicated that the clause quoted above does not preclude a practitioner from entering into an independent agreement with an insured person, if the insured person understands what are his rights under the Act and himself makes the request for individual attention.

Another issue, of a somewhat different nature but also connected with the admission to insurance of persons able to pay for their own treatment, arises out of a Regulation dealing with the powers and duties of the newly constituted panel committee This has been added to a long list of committees dealing with questions affecting the medical profession, local medical committees, medical benefit subcommittees, sanatorium subcommittees, medical service subcommittees, joint service subcommittees, and district medical committees. The Regulation referred to gives to panel committees, but not to local medical committees, authority to dispute the right of any insured person to receive medical benefit on the ground that his income is in excess of the limit. There appears to be no reason why members of a panel, who to some extent are interested in keeping patients on the insured list, should be allowed this right, and that those whose interests may lie in the opposite direction should be denied it. The question of medical service for temporary residents, who constitute a body of patients containing many with no very fixed abode, will for some time be one upon which medical practitioners will not be unanimous. The new agreement fixes the system of payment by reference to a schedule appended to the Regulations, so as to provide for medical attendance upon all temporary residents being on the basis of "case value of persons on panel lists." The penalties to be inflicted upon a medical man, upon an adverse report being made by the medical service subcommittee after investigation of a complaint made by a patient, have received an important addition. An insurance committee is now to be able to transfer any patient from the list of one medical man to that of another on the patient's application and without further inquiry, if the committee is satisfied that the medical man from whom the transfer is to be made has too many patients on his list to be able to give them adequate treatment, or that his conduct has been such as to afford grounds to those on his list for desiring to be removed from it. All this gives a power of arbitrary action to insurance committees which is open to considerable objection, and those most sincerely anxious to see the Act working smoothly cannot but regret some of the provisions.

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[1] Draft Regulations, National Health Insurance (Medical Benefit), England, 1913. Wyman and Sons, Fetter-lane, London, E.C. Price 3½d.

[2] See THE LANCET, Nov. 22nd, p. 1507.

Another penalty takes the form of deductions, to be made under a clause in the new agreement, from the money due to the practitioner. These deductions may be made in respect of expenses or loss incurred by the committee owing to any breach by the practitioner of his agreement. The comprehensive nature of these penalties and the powers which they give to insurance committees to exercise disciplinary functions over the medical men upon their panels can only be justified on the ground that the panel patient has no other remedy open to him except that of complaining to the insurance committee. If an action can be brought by the patient, as in the case of TITHERINGTON *v.* DUNLOP, there can be no reason for increasing the powers of committees to deal with complaints and to exact penalties. If such actions as that referred to are precluded owing to the fact that the medical man's contract is with the committee only, the case is admittedly different, and it is to be regretted that one or other of the Insurance
Acts should not
dispute. We ha
to be the princ
or less force, r
the Regulations which are still draft Regulations, and therefore capable of modification. The Commissioners are showing willingness to give attention to representations having the support of a large body of medical opinion, and in any case the Regulations now proposed are not likely to be final. It is to be regretted that finality does not appear to be at present attainable. But the difficulties under which we now chafe are very real, and the feeling against contract practice, always existent, has during the last week given great evidence of vitality.

The University of London: The Organisation of Advanced Medical Studies.

THE Departmental Committee of the Board of Education who are now engaged in considering the Final Report of Lord HALDANE'S Commission on University Education in London have been for several weeks steadily progressing with their task, and nothing shows more clearly how difficult that task is than the misapprehensions, not only of the public, but of medical men directly interested in the questions at issue, of what the work of the Departmental Committee is. And yet the Government have made the matter perfectly clear. The work of the committee is to report to the Board of Education in what way—of course with alterations in detail, necessary compromises when face to face with conflicting and coequal interests, and so on—the Final Report of the Royal Commission can best take shape as an Act of Parliament. The Departmental Committee cannot, for example, choose a central site for the University any more than they can find the money to pay for it, or definitely arrange the terms of purchase; but in any advice they may give on the matter they do not have to take into account the desirability of the University possessing a central site, for that is one of the things that have been settled by the Royal Commission, to whose findings they are endeavouring to give effect.

The remarks of the report of the Royal Commissioners with regard to the matter of a central site affect the whole University, and the Faculty of Medicine, with which we are mainly concerned, is interested in them like all the other faculties; but the Commissioners found in considering the Faculty of Medicine certain special difficulties which should render the assistance of the Departmental Committee of particular value to the Board of Education. The Departmental Committee will be engaged shortly in conferring with representatives of the hospital schools. In these conferences the practical difficulties of carrying into effect, even in a partial way, the changes advocated in the Report of the
ission will no doubt be thoroughly
consideration given to the question
hey can be overcome. In connexion
d medical studies, the Report of the
Royal Commission advocates two main changes. First they advise the introduction into a limited number of colleges and hospitals, as an addition to the clinical teaching, of the organisation which has been called the "hospital unit," by

[illegible] ne extent in this country in hospitals in which [illegible] is a disproportion between the supply of [illegible] l material suitable for teaching and the [illegible] r of students. It has been often tried in [illegible] l schools in London, but without any marked [illegible]. There can be no doubt regarding the [illegible] rity of the British system of appointing [illegible] nd dressers, supposing that a choice has to [illegible] between one system and another, and any [illegible] to substitute for it clinical demonstrations [illegible] ntinental type is not calculated to benefit [illegible] ing of medical students. The Com[illegible]s themselves recognise the importance [illegible] stinctively British method of clinical [illegible] which, they say, should not be aban[illegible] superseded. It may therefore be [illegible] as a first principle that nothing [illegible] done which will destroy or impair it. [illegible] business of a university is the training [illegible] graduates, but the function of adding to [illegible] l of knowledge by promoting research [illegible] important, and no centre of medical [illegible] n continue in the first rank unless, in [illegible] e excellence of the training which it [illegible] undergraduates, it also is producing [illegible] A great deal of research is being [illegible] the present time in the wards and [illegible] our metropolitan hospitals, but such [illegible] result mainly of individual effort, [illegible] d by lack of time on the part of [illegible] chers as well as by considerations [illegible] proper stimulus to [illegible] and

[illegible] takes the form of deductions to [illegible] clause in the new [illegible] due to the practitioner. [illegible] may be made in respect of expenses or loss [illegible] ed by the committee owing to any breach by [illegible] practitioner of his agreement. The comprehensive nature of these penalties and the power [illegible] to [illegible]

men upon their panels can only be justified on the ground that the panel patient has no other remedy open to him except that of complaining to the insurance committee. If an action can be brought by the patient, as in the case of TITHERINGTON v. DUNLOP, there can be no reason for increasing the powers of committees to deal with complaints and to exact penalties. If such actions as that referred to are precluded owing to the fact that the medical man's contract is with the committee only, the case is admittedly different, and it is to be regretted that one or other of the Insurance Acts should not have placed the question beyond dispute. We have referred only to what appear to be the principal objections raised with more or less force, and [illegible] generally; [illegible] the Regulations which are still draft Regulations, and therefore capable of modification. The Commissioners are showing willingness to give attention to representations having the support of a large body of medical opinion, and in any case

Commissioners recommend that when adequate funds are available the University of London should assume the educational and financial control of not more than three of the medical schools. Arrangements would be made with the governors of the hospitals to which these schools are attached for the appointment and endowment in each hospital of three professors—viz., in medicine, surgery, and gynæcology—each with a hospital unit under his charge. Certain objections to this scheme we have indicated. Apart from the difficulty of reconciling the interests of the university, which are teaching and research, with those of the hospital governors, which are primarily the treatment of the sick poor, other objections have to be met. Three such units would require about 200 beds, and only a very large hospital could afford to provide these and still have sufficient for the adequate preservation of the present clinical system. *Another grave objection* would be the sharp cleavage of the London medical schools into two classes—the three incorporated ones receiving only university students on the one hand, and all the others receiving mainly conjoint board students and having no university professors on the other. If the hospital unit organisation is a good one, why should the advantages of the university influence be limited to three hospital schools, and the extent of the clinical material now available to the university be deliberately curtailed? These objections could be overcome to a large extent by distributing the professors over all the medical schools, or so many of them as can provide [illegible] in conformity with the university [illegible] any school which can do this might be [illegible] in every way. [illegible] of one [illegible]

possessing a [illegible] things that have [illegible]s in each of [illegible] mission, to whose [illegible] rising resea[illegible] with the [illegible] to give effect. [illegible] training.

The remarks of the re[illegible] oners with regard to the [illegible] ergies [illegible] affect the whole Universit[illegible] the gi[illegible] Medicine, with which we ar[illegible] technic[illegible] interested in them like all the gra[illegible] th[illegible] of [illegible] re[illegible] mittee of particular value [illegible] tion. The Departmental Committ[illegible] shortly in conferring with repre[illegible] hospital schools. In these conferen[illegible] difficulties of carrying into effect [illegible] way, the changes advocated in [illegible] Royal Commission will no do[illegible] discussed and considerably gi[illegible] of how far they can be overco[illegible] with advanced medical studies, the [illegible] of the Royal Commission advocates two main changes. First they advise the introduction into a limited number of colleges and hospitals, as an addition to the clinical teaching, of th[illegible] organisation which has been called the "ho[illegible]

Annotations.

"Ne quid nimis."

A BRITISH RADIUM STANDARD.

THE authorities of the National Physical Laboratory at Teddington have taken an important step. They have secured a British radium standard, which has been certified by the International Radium Standards Committee, after comparison with the international standard prepared by Madame Curie. This standard is a preparation of 21·99 milligrammes of pure radium chloride obtained in Madame Curie's laboratory. The National Physical Laboratory is now in a position to undertake the standardisation of radium and mesothorium preparations by comparison with the standard. Particulars as to the methods of testing of specimens have been issued, together with a statement of the cost of undertaking such inquiry. We understand that for the present the testing of specimens will be restricted to the use of methods depending upon the measurement of the penetrating gamma rays: tests on radio-active minerals, waters, and the like, which are generally of feeble activity, will not be undertaken. A certificate will be granted in accordance with the findings.

THE MULTIPLE USES OF SUGAR.

IT is not widely known that sugar has in the industries many valuable applications which have nothing to do with its rôle as an aliment. The fact that sugar is a cheap carbohydrate containing a rich proportion of carbon, and that it acts in some cases as an acid, forming definite and soluble compounds with the bases, renders it a useful agent in certain industrial processes. It is, for example, the foundation of common boot blacking. It gives a smooth, silky "char" when heated with sulphuric acid. If the acid is neutralised and the mixture converted into a paste it gives the familiar shine when applied with a polishing effort to the leather boot. To some extent such paste has been replaced by wax and fluid polishes, but the old blacking made from sugar is regarded by many authorities as holding its own both as a polisher and preserver of the leather. Sugar is also employed in the manufacture of leather in order to remove the lime used as a scourer of the hides, while in the tanning process glucose is largely used as a "filler"—that is, a vehicle or carrier. Its affinity for the alkaline earths—e.g., lime—accounts for the use of sugar in removing and preventing boiler-scale. Sugar enters largely also into the composition of copying inks, and printers' rollers are made up of a mixture of glue and glycerine or sugar. It is used also as a cheap substitute for glycerine or alcohol in the manufacture of transparent soaps. It excludes those constituents in soap which make for opacity. Sugar, again, forms nitro-compounds, and hence a series of explosives owe their potentialities to the association of sugar with nitric acid. For a long time sugar has been employed as a hardener and strengthener of cements, and to this day is mixed with mortar to give it permanently hard qualities. Plaster is similarly treated with the same object. Some of the most ancient masonry of the world has been found to contain very appreciable quantities of sugar. The world thus owes a debt to sugar quite apart from its merits dietetically or as a preservative of foods. Its function as a preservative is not less important than its value as a nutritive. It is further of interest to point out that sugar, apart from being directly a food, serves to stimulate the flow of the gastric juices, and so acts in a way which recalls the action of soups or meat extracts. The use of sweet liqueurs after dinner may have some foundation in this physiological fact. As is well known, however, an excessive indulgence of sugar may lead to irritation of the mucous membrane of the stomach and to the flow of a strongly acid gastric juice, in which case sickness is commonly a sequel. All these considerations are interesting as illustrating the number of ways in which sugar serves, apart from that of being a direct nutritive in the common dietary.

A HOSPITAL AND A GRAVEYARD.

NOW that King's College Hospital is in the hands of the house-breakers, after being emptied of everything moveable, even to a batch of melancholy old coffins, a page in the history of Central London has been definitely turned down. The social historian, as well as the civic antiquarian, must regard this turning with something of a sigh, however much hygienists and hospital reformers may have just cause to rejoice. For was it not close to a King's College Hospital, if not this particular building, that lay the churchyard through the gateway of which "Jo," in "Bleak House," was wont to gaze before sweeping the gateway steps with his broom? The churchyard probably presented a gruesome spectacle 60 years ago, when Dickens published his famous romance of the Lincoln's Inn Fields neighbourhood. Bones had a way of occasionally protruding from graves. There were awful odours, and people in adjoining houses, where offices now stand, are said to have died from fevers, engendered by what was really a corpse pit. There is a tradition that one of the plague-pits of the year 1665 was situated here. Be that as it may, there can be no doubt that this churchyard, in common with many others in the metropolis, was fearfully overstocked before John Simon, an old King's College Hospital surgeon, and Edwin Chadwick promoted the agitation which led eventually to extramural burial. In the minutes of evidence of the select committee on Improvement of the Health of Towns, which sat in 1842, many questions were asked regarding the healthiness or otherwise of a hospital next door to a graveyard, and Colonel Fox, one of the Commissioners, remarked, "I am sorry to see that such a place is used as a hospital, for I think it is very improper." A witness told an anecdote of the Bishop of London having been present, on his own admission, at a funeral in the City where 13 skulls had been thrown up from the grave. He added that as many as 500 skulls were thrown up in one day in the graveyard next to the King's College Hospital, and that the gravedigger had amused himself by chalking their number on a wall. During the course of the inquiry, however, Dr. Todd showed that no disease in the hospital was traceable to the proximity of graves. The old hospital building had been the Strand union workhouse before 1839, and the building now being destroyed was not erected until after the "Bleak House" epoch—that is, until 1861. Still, the latter building carried on many traditions of the older and humbler house which must have been familiar to Dickens. It was a hospital, at any rate, whereas now offices or other lay buildings will take its place.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

AT a meeting of the council of the Society of Tropical Medicine and Hygiene held on Nov. 21st, an announcement was made concerning the ballot of the Fellows of the society on the proposal to amalgamate with the Royal Society of Medicine, the result being 60 in favour of amalgamation and 216 against. Thus by a large majority it has been decided that the Society of Tropical Medicine and Hygiene shall remain as hitherto an independent society. This question has been most carefully considered during two successive years by the council who are responsible for the management of the affairs of the society, and on each occasion it was decided with practical unanimity that it was contrary to the interests of the society to agree to the proposed amalgamation. On the second occasion, however, it was decided to refer the matter for decision by a referendum of the Fellows, this being decided upon at the annual meeting on June 20th, 1913. Sir John Kirk and Sir William MacGregor were elected honorary Fellows. Fourteen new Fellows were elected at the ordinary meeting of the society on Nov. 21st, and 32 names were nominated by the council for election at the next meeting of the society. All medical men interested in tropical medicine are warmly welcomed as Fellows of the society, and the secretaries will be glad to give information to any who desire further particulars if they will write to them at 11, Chandos-street, Cavendish-square, London, W.

ABDOMINAL PAIN AFTER VACCINATION.

THE recent epidemic of small-pox in Sydney which has been described by our Australian correspondent, caused so much anxiety that people were vaccinated in large numbers. A sequel of vaccination which appears to have previously been unobserved—abdominal pain—has been described in the Australian medical journals by several writers. Its recognition is important in order to avoid diagnosing some acute abdominal condition. In the *Australian Medical Journal* of Sept. 6th Dr. D. Murray Morton, senior surgeon to St. Vincent's Hospital, has published a paper on this sequel which has occurred, he says, in a definite percentage of cases and in the practice of many Sydney practitioners. It usually begins in the third week after vaccination as a severe pain deep in the epigastrium. It may be associated with vomiting. After some hours the pain settles in the back in the mid-dorsal region and is persistent and agonising. It is aggravated in the recumbent position, so that the patient prefers to sit up, stand, or even walk about. Its severity is such that if its cause is not suspected biliary colic, acute appendicitis, or other grave abdominal condition may be diagnosed. In one case, which Dr. Morton saw in consultation, the condition of the patient seemed so alarming that a high intestinal obstruction had been suspected. Sleep is impossible partly from pain and partly from extreme restlessness. Once [illegible] occurrence of this sequel the dir[illegible] difficult. The symptoms and signs [illegible] with those of the ordinary abdominal conditions. The pulse is rather slowed than quickened, the abdomen remains soft, and there is no definite tenderness. The early transference of the pain from the abdomen to the back and the restlessness make a characteristic picture quite unlike that of any acute abdominal condition except biliary colic. The nature and distribution of the pain bear a close resemblance to the gastric crises of locomotor ataxy. The only means of giving substantial relief is the administration of a full hypodermic dose of morphine, and to repeat it if necessary. After three days relief is almost complete, although slight pains in the back are not uncommon. Out of about 1300 vaccinations performed by Dr. Morton or under his control abdominal symptoms occurred in ten. In three cases the symptoms were severe and distressing. All occurred in adults who previously had been vaccinated successfully. Dr. Morton does not give any explanation of these pains. It may be suggested that they are the analogue of the backache of variola.

TUBERCULOSIS NOTIFICATION.

A CORRESPONDENT, who is chairman of the finance committee of an important district council, has directed our attention to the frequency with which notification payments have to be made from the rates to different medical men in respect of the same case of tuberculosis. The local practitioner, he states, often sends the patient to a consultant who also notifies the case, while frequently also another notification may be received as a result of the patient having gone independently to a hospital for treatment. Our correspondent expresses a natural anxiety, not only at the apparently wasteful expenditure thus arising, but also as to the effect which the receipt of so many duplicate or triplicate notifications may have on statistics of the prevalence of tuberculosis. It seems clear from the terms of the Public Health (Tuberculosis) Regulations, 1912, under which notification is made, that multiple notifications are fully authorised, and by the nature of the disease are necessary if the object of the regulations is to be achieved and all tuberculous cases are to be brought to the knowledge of the medical officer of health of the district in which the patient lives. The regulations state merely that the practitioner is not bound to notify if he has reasonable grounds for believing that the case has already been notified. Unless the second practitioner has some facts to go upon he cannot escape his obligation to report. It is well, however, that the natural objection to paying for repetition of information already obtained should be borne in mind, and we may invite our readers to discuss the possibility of adopting a line of action which would help to meet this objection while conforming with the official requirements. One or two suggestions, for example, occur to us. In modern practice there is seldom advantage in concealing the fact of tuberculosis from the patient, who in ordinary circumstances must know of his tuberculous condition sooner or later if notification is sent. Consequently the practitioner notifying a case of tuberculosis might well make it a habit to tell the patient that he is doing so, and to whom the notification is going; and also before notifying any case he could inquire as a[illegible] [illegible]culosis has been [illegible] officer [illegible] living. General observance of this practice should, we think, lessen duplication. It might also be well that the practitioner who merely suspects tuberculosis in a case which is forthwith to be sent to a tuberculosis dispensary or to a hospital for special observation should not meanwhile notify it at all. As regards the effect of multiple notifications on statistical work, we do not think our correspondent need fear that the effect of duplication is likely to be neglected in the preparation either of local or national figures. The elimination and codification of duplicates already receive close attention in the offices of sanitary departments. Comparisons of one district with another in respect of the rate of notified tuberculosis would not ordinarily be made by any prudent medical officer of health without inquiry as to the corrections made for multiple notifications, while if for some special statistical purpose such crude figures were used, the uncertainty introduced by the absence of correction could hardly fail to be pointed out.

THE SALE OF COCAINE SNUFF.

A case was heard before the Birmingham stipendiary magistrate last week in which a joint stock company carrying on a chemists' business was summoned, at the instance of the Pharmaceutical Society, and fined for selling a preparation of cocaine without labelling the package "Poison" and without observing certain other conditions imposed by the Pharmacy Acts in connexion with the sale of scheduled poisons. The chief inspector under the Sale of Food and Drugs Acts for West Bromwich, who gave evidence, said it was possible to obtain a bottle of cocaine snuff from tobacconists and licensed victuallers in the town. This revelation is somewhat disturbing, but it is to be hoped that the practice will cease now that the attention of the tobacconists and licensed victuallers concerned has been called to the fact that the sale of cocaine snuff by them is not only illegal but is fraught with considerable danger to the public. If at any time the Pharmacy Acts should be amended in such a way as to create a group of poisons to be sold only on the order of a medical practitioner cocaine is obviously a substance which should be included in the group. In the meantime the sale of cocaine and its preparations is by law restricted to chemists, and no compound containing 1 or more per cent. of cocaine may be sold to any person who is not known, or introduced, to the seller.

MALARIA AND AGRICULTURE.

In this age of experimental science there is a tendency for the knowledge derived from mere observation to be overlooked or even discarded. Observation for years has associated certain conditions with certain diseases, and causation theories, often vague and indefinite enough, have been founded thereon. Then comes some new light on the subject of the causation of the disease which is clearly established by experimental investigation, and because the theories formerly based upon the observation of the past are thus proved to be entirely fallacious the tendency is to ignore or discard the observations themselves. And yet these observations when approached from an entirely different point of view may sometimes not only be shown to be absolutely correct, but may even indicate ways in which the later experimentally proved knowledge may be widely extended in its application. An interesting example of this was afforded by the investigations into the relations between malaria and agriculture of Dr. Malcolm Watson, of the Federated Malay States, detailed recently by him before the Royal Colonial Institute in a paper on the Prevention of Malaria: its Relationship to Agriculture. Malaria has for ages been known to be connected with swamps and to be reduced by drainage and cultivation. Again, in some places flooding a swamp actually improved health, while in others drainage and turning up the soil induced serious outbreaks of disease; yet in some regions it was found, not in the swamps, but in the hills and dry sandy deserts. Dr. Watson, following up the line of investigation begun in the Malay States, made a personal inspection of the malarial districts in North Sumatra, Panama, British Guiana, and Barbados. The upshot of his observations is, in brief, the working rule that pool-breeding mosquitoes can be abolished by open drainage, while stream-breeding mosquitoes, some of which are also malarial carriers, necessitate subdrainage for their destruction. The principal hill mosquito is Anopheles maculatus, and it was found that wherever it was present hill malaria existed, but not where it was absent. The observation, therefore, that cultivation of low-lying swampy lands diminished malaria, but did not necessarily do so in the high-lying districts where it existed, was thus both proved and explained. By putting the streams underground for a certain distance round the habitations in the hill districts the malaria was subdued.

THE MOUNT VERNON HOSPITAL CONTROVERSY.

On July 12th last we printed letters announcing the resignation of the large majority of the honorary medical staff and of the resident medical superintendent of the Mount Vernon Hospital for Consumption and Diseases of the Chest. In our issue of Nov. 22nd we published a letter from Mr. C. Johnston, chairman of the committee of management of the hospital, traversing some of the statements made in our columns by members of the consulting and visiting staffs, and defending the policy of the lay board of which he is the head. This week we print a long letter in reply from Dr. F. W. Tunnicliffe and Dr. A. J. Whiting, which is in effect a categorical account of the circumstances which led to the resignations referred to above, and an indictment of the course pursued by the committee of management. In view of the gravity of the situation, these *ex parte* statements published in our columns demand the closest attention of our readers. The charges brought against the lay board of the Mount Vernon Hospital by Dr. Tunnicliffe and Dr. Whiting are briefly as follows: (1) That they refused to meet the medical board in conference upon matters of vital importance to the institution; (2) that they arbitrarily dismissed the two junior physicians; and (3) that they failed to make an official offer of beds at Northwood to the senior physician, in contravention of an understanding entered into by them four years ago. It is not in dispute—although this matter was not touched upon by Mr. Johnston in his letter—that the present deplorable state of affairs is largely due to acute differences of opinion between the lay and medical boards upon the necessity or otherwise of giving up the hospital at Hampstead and of concentrating the resources of the hospital, on a different footing, at the Northwood Sanatorium. With regard to this aspect of the controversy we would refer our readers to an article in THE LANCET of March 1st last, which summarised the difficulty as it then stood and set out in detail the point of view of the medical staff. Things have changed since then, but even if the lay board were justified in abandoning the Hampstead building it does not appear from the correspondence published by us that their treatment of the medical staff has been correct, and a strong impression remains that they have brought this trouble upon themselves. We hope it is not now too late for an amicable settlement; as matters stand at present the interests of an institution which has done excellent work in the past are seriously threatened.

DENTAL CARIES AS A CONTAGIOUS DISEASE.

UNDER the title of "The Conquest of Caries" there appears in the *British Dental Journal* of Nov. 15th an article in which the author, Mr. William H. Jones, gives an interesting account of the progress of the Dental School Clinic which was established at Cambridge through the generosity of Mr. Sedley Taylor. The figures given by Mr. Jones indicate that there is a definite improvement in the general condition of the children from a dental point of view. It is, however, a curious fact that nowhere in the report is there any reference to the relation of nasal obstruction to the amount of caries or the general condition of the mouth. Again, there are no very accurate figures on the percentage of children showing a marginal gingivitis—figures which one naturally expects to find in any statistics of school clinics where the recent authoritative teachings of dental surgery have been assimilated. In the paper there is a statement that dental caries is a contagious disease. Much caries has been shown to be a disease due to the stagnation of carbohydrate food about the teeth, the fermentation of the stagnant carbohydrates resulting in the formation of lactic acid. In the various investigations made by trustworthy observers there has been little or nothing brought to light supporting the theory of contagion. The author's conclusions are apparently based on the following observations:—1. That in the new patients examined [illegible] is a lessened incidence of caries. 2. That the new patients are in the majority of cases the younger brothers and sisters of children who have been treated in previous years. "They consequently live in homes and work in schools where the amount of oral sepsis has been enormously lessened in the last five years. In consequence these younger children breathe a better atmosphere, probably more especially when asleep, and they eat off plates and drink from vessels less liable to be contaminated, and are consequently less liable to be influenced adversely by any infantile contagions." 3. The minimum amount of treatment prevents advance of caries in a given mouth. 4. "The decay in the second temporary molars appears to be responsible for much of the decay in the first permanent molars, so much so that the extraction of a decayed second temporary molar is frequently performed as a conservative act in connexion with the scheme." Mr. Jones then says that "if it be admitted that decay can spread from tooth to tooth in a mouth, or be prevented from doing so, then it appears reasonable that decay may also [illegible] from the teeth of one individual to those of [illegible] Now, an axiom in the prevention of caries is that the mouth must be functional, and to be functional (1) the teeth must be free from tenderness so as to allow mastication without pain; (2) there must be nasal breathing. The absence of either of these conditions results in the formation of stagnation areas and liability to caries if the food lodging around the teeth be a carbohydrate. Consider the author's observations by the light of the functional mouth and what do we find? To take the last observation first, a carious second deciduous molar, being a functionless tooth, will lead to the formation of stagnation areas in its immediate neighbourhood and also around the opposing teeth. The first permanent molar is approximal to the second deciduous molar, hence this tooth is involved, and if the carbohydrate food is present in the stagnation areas caries follows. Remove the carious, tender, deciduous molar, functional activity is restored, and food does not lodge. Take the observation that the minimum amount of treatment prevents the advance of caries—this is due, again, to the removal of tender areas of mastication, restoring functional activity. The observation of the decrease of caries in families is far more rationally explained on the lines of increased attention to dental hygiene. If due to the lessening of contagion one would expect it to be general throughout the family, but it is the common experience of practitioners to find one child more affected with caries than the other, and inquiry soon elicits the fact that oral hygiene or neglect of the rules of dietary is the cause. The verdict to be passed on the author's assertions is certainly "not proven," and, taking all the facts that are known relating to caries we are inclined to consider it should be "not likely." The plan for the conquest of caries does not, we think, lie in approaching the disease as one due to contagion, but rather as one due to stagnation of carbohydrates. Preventive treatment along the latter lines has led to most hopeful results.

THE RADCLIFFE INFIRMARY, OXFORD.

WITH the opening of its new wing on Nov. 26th, which was briefly reported in our last issue, the Radcliffe Infirmary and County Hospital, Oxford, entered upon a fresh chapter in its history. The Chancellor of the University, Lord Curzon of Kedleston, who performed the ceremony, showed himself well acquainted with the origin and growth of the institution and with its importance as a centre of medical teaching and research. His presence added much to the interest of the occasion, and emphasised, if that were necessary, the close connexion which exists, and has always existed, between the infirmary and the University of Oxford. Having pointed out that the business upon which they were engaged that afternoon had been made possible by the benefactions of two medical men, Dr. John Radcliffe and Mr. John Briscoe, the Chancellor touched lightly upon the oblivion which has befallen the personality of many of those whose names survive in buildings and endowments. Of Mr. Briscoe's bequest of £63,000, which came to the hospital at his death in 1908, £15,000 have been devoted to the present extensions, and £9000 have been subscribed for the same purpose by the public. The new buildings comprise out-patient and casualty rooms, accommodation for special departments, and admirably designed and equipped laboratories for clinical pathology. These latter Lord Curzon rightly called the principal feature of the extension;

enabling the hospital on the one hand to become the natural and invaluable complement to the scientific department of pathology in the University, and on the other hand to place at the disposal of the hospital staff every resource of modern medical science. Further than this, the hope was expressed that with its new equipment the hospital might soon become the centre to which every medical practitioner in the district would find his way for guidance in modern methods of diagnosis, treatment, and research. If this ideal is realised to the full the Radcliffe Infirmary will have give an lead in one of the most important medical movements of recent times.

STREET AMBULANCES FOR LONDON.

IN accordance with the request of the London County Council the Ambulance Committee of the Metropolitan Asylums Board have presented to the Board a scheme for the provision of street ambulances for the metropolis. The Ambulance Committee suggest that the scheme should be temporary and controlled by the Asylums Board, who could make use of the seven existing stations, supplementing them by 12 additional depôts, each furnished with an electrically driven ambulance. Two men, competent motor drivers and skilled in first aid, could be stationed at each depôt. The ordinary telephonic machinery would be relied upon for the calls, each station or depôt being connected with a head office, and the service would be night and day. The Ambulance Committee are to be heartily congratulated on the prompt production of a practical scheme to meet a crying want, and we are glad to know that their recommendations have been adopted by their authority. The development in London of telephones and the great facilities offered by motor traffic have been used by the Committee as a basis of their scheme to excellent effect. The capital cost of the scheme is estimated at £18,000, and the annual cost at £17,800, but the cost of the sites to be required for the new depôts is not included in these figures. It should be added that there will be absolutely no connexion between the accident service and the service in respect of infectious diseases. We hope that we shall soon see the scheme in actual work.

RUPTURE OF THE SYMPHYSIS PUBIS IN LABOUR.

A CASE of this unusual complication of childbirth is reported in the *American Journal of Obstetrics* for November by Dr. H. E. Tuley. The recorded cases number something under 150, but the discussion which followed the presentation of the case to the American Association of Obstetricians and Gynæcologists at their twenty-sixth annual meeting makes it probable that only a small proportion of those actually diagnosed have been reported. Nearly 30 per cent. of the recorded cases have occurred quite spontaneously—that is, without forceps delivery or any similar adventitious violence. In one such case the child was actually born within an unruptured amniotic sac, showing that intra-uterine pressure can scarcely have been excessive. But in the majority of cases excessive or misdirected forceps traction is the cause of this accident. The rupture is usually complete. It may take place in the median line, or at one side between the cartilage and the pubic bone. If the injury is slight the synovial cavity of the symphysis may not be injured. An excessive degree of the lesion is complicated by laceration of the vagina, the bladder, and the intervening connective tissue. Rupture of the symphysis is frequently accompanied by partial rupture of one or both of the sacro-iliac synchondroses. Sometimes the accident is recognised at once by feeling the bone give way or by an audible snap, or it may not be detected until the patient begins to sit up or get up, and finds herself disabled. Complications of the injury are common, such as rupture of the anterior vaginal wall, rupture of the bladder, severe hæmorrhage from rupture of veins, and suppuration of the joint or of the cellular tissues. Treatment consists of firm strapping and rest, with appropriate attention to any complications. Dr. Ill, in opening the discussion on Dr. Tuley's paper, thought he must have met ten such cases himself, and gave details of several of them. Of the two next speakers the first said that he knew of five cases which had never been reported, while the second had encountered four in his hospital experience. It seems clear that, at this rate, there must be hundreds, if not thousands, of unreported cases, and, quite possibly, there may be a good many minor degrees of this accident which are not recognised at all. It is the impression of several of the authorities who have reported instances of it that rickets and contracted pelvis predispose towards rupture of the symphysis pubis, mainly, no doubt, because they lead to dystocia and to forceps delivery, with prolonged or over-violent traction. A bibliography is appended to Dr. Tuley's paper.

THE FREQUENCY OF AMENTIA AS RELATED TO SEX.

IN considering the sex-incidence of disease one may be led into mistakes by ignoring the importance of the economic factor. Many men are taken to our institutions because they are no longer fit to retain their place among their fellow-workers. With women the case is different. They are kept at home affectionately if ignorantly. A paper in the *Medical Record* of Oct. 25th, by Miss L. S. Hollingworth, appears to show that if the number of females in institutions for the feeble-minded is less than that of males, the explanation is that women are not mentally competitive to the same extent as men. She has made a study of the defective individuals who pass through the Clearing House for Mental Defectives in New York, and has found that in 1000 individuals there were 568 males and 432 females. Of those over 16 years of age there were 78 males and 159 females; of those over 30 years of age there were 9 males and 28 females. From 2 to 16 years of age there is a marked predominance of males, but after that age the females are greatly in excess. By the Binet scale the average age at examination is older for girls than for boys at all mental ages. Similarly the deviations from these averages are greater in all cases for girls than for boys. This shows that a boy will be brought to the Clearing House at an earlier age than is a girl of the [illegible] fectiveness. Females survive in [illegible] beyond the age of 16 twice as frequently as boys, and thrice as frequently after the age of 30. Of ancillary interest is the number of children procreated by those feeble-minded individuals. In no case was there a history of procreation by the males, but 159 females over 16 years old had had 44 children, 31 of which were illegitimate. Of these 159 women 18 were married.

or about to be married, and 17 were frankly immoral; and 56 were definitely known to have been victimised. Miss Hollingworth points out that so long as sex is a commercial asset to women they can survive without much regard to mental deficiency. The boy who cannot compete mentally becomes at an early age an object of concern, and is directed towards an institution.

THE BATTLE OF THE CLUBS IN GERMANY.

THE Berlin Medical Society at a recent meeting discussed the battle of the clubs. The President, Professor Orth, said that according to the statutes of the society it might discuss not only scientific subjects, but also general professional matters. During the last few decades these questions had been practically abandoned and left to medical associations such as the local medical unions, the Leipziger Verband and others, but he believed that at the present critical time it was the duty of this leading medical society to declare that they fully agreed with the demands of the general practitioners and wished to support their brethren in their struggle. Professor Kraus, the director of the first medical clinic, speaking as a university professor, said that the free choice system was the only system under which medical men could work without being hindered by the interference of club officials. It was the duty of the clinical teachers not to abandon their former pupils in their endeavours to maintain their rights. Dr. Munter then explained that although the clubs had declared their inability to pay higher fees owing to their financial situation they had nevertheless money enough to appoint "strike-breakers" at enormous cost. After this short but [illegible] a motion was unanimously [illegible] nt the Berlin Medical Society [illegible] by recent legislation the medical profession was seriously threatened in its liberty and independence, which were absolutely necessary not only for scientific work but also for the treatment of patients, and that the society wished to declare that it would be on the side of the profession against the clubs.

Mr. George Wills and Mr. Henry Wills have added to their promise of £150,000 for new buildings for the University of Bristol an offer of a further sum, not to exceed £25,000, to pay for an immediate extension of the University site, and also to provide an extra endowment of £5000 for upkeep.

KING EDWARD VII. MEMORIAL, BIRMINGHAM.—The scheme to commemorate the late Sovereign has been exceedingly successful. The statue in Victoria-square was unveiled last April, and the fund accounts now closed record the transference of a sum of [illegible] of the Children's Hospital [illegible] new institution. This sum [illegible] cipations at the time the scheme was launched, and it secures the success of the hospital committee's plans. There is now every prospect that the hospital may be opened free of debt. [illegible] tion of [illegible] level, ar[illegible] place in [illegible] and equipment was estimated at £64,000. Towards that amount £55,000 have been received or promised. At present the out-patient department is separate from the hospital and situated in Steelhouse-lane. This is not abreast of modern [illegible]

MARTIAL AND MEDICINE.[1]

BY RAYMOND H. P. CRAWFURD, M.A., M.D. OXON., F.R.C.P. LOND.,

PHYSICIAN TO KING'S COLLEGE HOSPITAL; EXAMINER IN MEDICINE TO THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

IN this short study I propose not to stray beyond the strict limits that its title imposes, and so far as possible to allow Martial to speak for himself in the broken English into which I have had the presumption to endeavour to render his epigrams. I do claim the merit of having adhered with some fidelity to the language of the originals, but beyond this I do not expect even the small measure of appreciation that Martial claims for himself:

Sunt bona, sunt quaedam mediocria, sunt mala plura
quae legis hic: aliter non fit, Avite, liber.

Some good, some middling, many bad
you'll find in this edition:
Avitus, books can not be made
except on this condition.

The Low Status of Medicine in Rome in Martial's Time.

Martial's epigrams, as a whole, mirror the every-day life of Imperial Rome in the latter part of the first century of the Christian era; the allusions to medicine are not numerous, but such as they are they do afford just those living touches that reanimate the dry bones of medical history, but which are so apt to elude the historian. A profession of medicine can hardly be said to have existed at the time in Rome, though, as the epigrams show, the practitioners were all too numerous. Though Julius Cæsar had done something to raise the status of medicine by granting civic rights to medical immigrants, and though Augustus and the later emperors had beamed benevolently on their own body-physicians, the calling of medicine was still too ignoble for adoption by the Roman of culture and breeding, despite the wealth of a few leading physicians, and was almost exclusively in the hands of foreigners, mostly Greek, or of the less desirable members of the native populace. Men such as these, by their ignorance, their cupidity, their viciousness, their blatant quackery, afford a fair target for the shafts of Martial's satire. It was all 'go as you please': no compulsory curriculum, no diploma, no censors board, no General Medical Council, no barrier of healthy public sentiment to restrain professional obliquity. The great Asclepiades had long since shown that ignorance and effrontery were effective passports to the highest medical eminence. Failing at the Bar, he conceived the idea of exploiting the practice of medicine. Ignorant of the rudiments of medicine, he wisely decided to substitute for the approved stock-in-trade of the *soi-disant* physician those simple methods with which every layman has some acquaintance—physical exercise, bathing, diet, and the judicious selection and liberal administration of the choicest vintages. There was a strong dash of Larkinism about Asclepiades: "to hell with the Pharmacopœia" was his attitude towards medical practice. One wonders that such a man should have failed at the common law Bar, but being what he was it was inevitable that the practice of medicine should offer superior attractions and greater scope for his activity.

Though, as I have said, there was no compulsory curriculum, some sort of clinical teaching seems to have been attempted, but, if it was of advantage to the student, according to Martial it brought little comfort to the patient—

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[1] A lecture delivered before the History of Medicine Section of the Royal Society of Medicine on Dec. 3rd, 1913.

Languebam: sed tu comitatus protinus ad me
  venisti centum, Symmache, discipulis.
Centum me tetigere manus aquilone gelatae,
  non habui febrem, Symmache, nunc habeo.

I lay ill: but soon Symmachus sought me
  with a class of a hundred young men,
whose hundred cold paws have brought me
  the fever I lacked till then.

The Bane of Pretentious Specialism.

Specialism may be the measure of the excellence of medicine at any period, but it may be also the reverse. In Martial's time it was assuredly the measure of the degradation of the healing art: here is an enumeration of some of those who preyed on the vitals of Imperial Rome:—

Totis, Galle, iubes tibi me servire diebus
  et per Aventinum ter quater ire tuum.
Eximit aut reficit dentem Cascellius aegrum,
  infestos oculis uris, Hygine, pilos:
Non secat et tollit stillantem Fannius uvam,
  tristia servorum stigmata delet Eros.
Enterocelarum fertur Podalirius Hermes:
  qui sanet ruptos dic mihi, Galle, quis est.

Gallus, I'm at your service all the day
  trudging the Aventine three times each way:
Cascellius draws bad teeth or does repairs,
  Hyginus burns from eyelids worrying hairs.
A knifeless Fannius docks lax uvulas,
  Eros removes from slaves degrading scars:
Hermes, like Podalirius, ruptures cures:
  Who, Gallus, heals an injury like ours?

That 'ruptos' should not be rendered 'ruptured,' as most translators have done, is clearly shown by the context of the previous line, and there is little doubt that Martial indicates a condition arising from the malpractices which were prevalent at the time in Rome, and which figure *ad nauseam* in his epigrams. The word 'tollit,' with its varying shades of meaning, leaves some doubt as to the exact nature of the treatment which Fannius meted out to relaxed uvulas, but it suggests that then, as now, man was impatient to discard his superfluities. The uvula has always presented the same irresistible temptation to the budding laryngologist as the appendix to the young surgeon, and other savages, as you know, inflict similar mutilations on their own ears and noses. Can it be that Fannius employed the cautery, which Hyginus used in the treatment of entropion, or is the allusion to some escharotic, or to an écraseur? On the other hand, the word may simply indicate the use of some astringent which raises up the trailing uvula, and this view is supported by the fact that Celsus recommends local astringent applications, in preference to the knife, in any case of acute congestion, such as might induce copious hæmorrhage.

Here, then, are mentioned dentists, oculists, laryngologists, dermatologists, and hernia specialists, of some of whom we shall have something to say hereafter. Martial is not alone in denouncing the bane of the pretentious specialism prevalent in his time, as we find Scribonius Largus, physician to the Emperor Claudius, inveighing against those who undertake the case of isolated diseases, whereas the true physician should be able to cure all.

Many epigrams deride the competence or the character of these manifold practitioners. Here are typical examples:—

Clinicus Herodes trullam subduxerat aegro:
  deprensus dixit: 'Stulte, quid ergo bibis?'

Doctor Herodes filched a bowl
from a sick patient's table:
when caught, he merely said 'You fool,
to drink you are not able.'

And this pair, and many others in similar strain:

Chirurgus fuerat, nunc est vispillo Diaulus,
  coepit quo poterat clinicus esse modo.

Diaulus undertook of late
the operator's art:
but now prefers to operate
the undertaker's part.

Nuper erat medicus, nunc est vispillo Diaulus,
  quod vispillo facit, fecerat et medicus.

Diaulus held till recently
the office of physician,
but now in strict conformity
a gravedigger's commission.

The distinction between the clinical physician and the operating surgeon is thus clearly recognised. The term 'medicus' is of much wider application than 'clinicus,' and the nearest English equivalent is to be found in the title 'apothecary'; he might be a mere druggist, or he might actually practise medicine, but his status was, speaking generally, inferior to that of the 'clinicus.'

Oculists.

Oculists come in for a full measure of Martial's satire; like Diaulus, they were prone to descend in the social scale:

Oplomachus nunc es, fueras ophthalmicus ante:
  fecisti medicus quod facis oplomachus.

Though once an oculist, you now replace
  your lancet by the gladiator's lance:
  the change of weapon makes no difference,
you still administer the coup de grâce.

For lack of English equivalents it is impossible to reproduce the play on the words 'oplomachus' and 'ophthalmicus,' so I have endeavoured in my translation to transfer it to the instruments of their respective callings. Here is a skit on the oculist's skill:

Solvere dodrantem nuper tibi, Quinte, volebat
  lippus Hylas, luscus vult dare dimidium.
Accipe quam primum: brevis est occasio lucri:
  si fuerit caecus, nil tibi solvet Hylas.

Blear-eyed Hylas yesterday
to pay your fee was willing:
now one eye is gone he may
halve the previous shilling.

Quintus, take it greedily,
profit by the occasion:
when he's blind, he'll certainly
try complete evasion.

In contrast to this it is pleasant to encounter an oculist who was prompt to denounce the injurious habits of his patient: we may label the epigram 'Albuminuric Retinitis.'

Potor nobilis, Aule, lumine uno
luscus Phryx erat alteroque lippus.
huic Heras medicus 'Bibas caveto:
vinum si biberis, nihil videbis.'
Ridens Phryx oculo 'Valebis' inquit.
misceri sibi protinus deunces
sed crebro iubet. Exitum requiris?
Vinum Phryx, oculus bibit venenum.

Aulus, there's Phryx that fine old winebibber,
blind of one eye and of the other blear:
his doctor Heras said, 'Drop alcohol
for if you take it, you'll not see at all.'
Laughing Phryx wished his eyes a last 'Good-bye'
and ordered cups to be mixed *frequently*:
d'you want to know the consequences? why,
'twas wine to Phryx, but poison to his eye.

We learn from Martial that artificial eyes were beyond the ophthalmic science of his day:

> Dentibus atque comis—nec te pudet—uteris emptis,
> quid facies oculo, Laelia? non emitur.
>
> False teeth and hair flaunts Laelia shamelessly,
> but not false eyes, for these she cannot buy.

Doubtless the repelling spectacle of the empty orbit, at a time when diseases of the eye flourished unrestrained by the simplest antiseptic remedies, must have been only too common in Rome. And worse than this, where now we employ sedatives, the practice then was to use irritants and strong astringents—

> Aspicis hunc uno contentum lumine, cuius
> lippa sub adtrita fronte lacuna patet.
>
> You see that fellow yonder, how
> he swaggers with a single eye:
> while underneath his shameless brow
> there gapes a sightless cavity.

Dentists and Dentistry.

Dentists and dentistry figure prominently in Martial's epigrams. Apparently domestic remedies for aching teeth and for other simple dental disorders fell within the province of the general medical practitioner. Celsus, who, though not himself a medical man, compiled the leading medical text-book of the time, devotes a good deal of space to the teeth. He has a legion of medicinal remedies for the relief of toothache, most of which are to be applied directly to the aching tooth. Similar applications are recommended for the aching of carious teeth, but he lays down no lines of treatment for dental caries, if unattended by pain. Extraction is his resource, when topical applications fail to relieve the pain. He advocates making teeth that have become loose fast, by means of gold wires binding them to those that are firm, but the real conservative dentistry was left in the hands of dental charlatans. Pliny[1] speaks of these men cauterising carious teeth with ignited walnut shells. Scribonius Largus[2] does mention scraping away the carious matter of a decayed tooth as though it were an orthodox medical procedure, but Andromachus, whom Nero raised from being his own body-physician to that of archiater, or physician-in-chief, had no better remedy for caries than packing the cavity with the theriaca, or treacle, which he invented as a general panacea, and which maintained its ancient reputation right down to modern times. If this was the treatment to which Andromachus subjected his imperial master, it affords perhaps some explanation, if not an excuse, for those wild outbursts of passion that darkened the life of Nero. Dentists indeed seem to have been more successful in stopping the tooth than the ache, for Pliny[3] cites, in most matter-of-fact language, the case of a man who threw himself from the top of a house after having a hollow tooth stopped with laser and wax: and he adds, by way of comment: "It is a well-known fact that, if this is rubbed on the muzzle of a bull, it irritates him to an extraordinary degree." A visit to the dentist in those days was not a thing to be lightly undertaken, for according to Pliny again "it is beneficial to introduce into hollow teeth the ashes of the dung of mice, or of the dried liver of lizards." Celsus makes no mention of artificial teeth, and to judge from the various allusions by Martial, it would seem that they were worn rather to improve the appearance than to aid mastication.

> Thais habet nigros, niveos Laecania dentes;
> quae ratio est? Emptos haec habet, illa suos.
>
> Laecania has white teeth, Thais brown;
> How comes it? One has false teeth, one her own.

Other epigrams describe the composition of these false teeth:

> Nostris versibus esse te poetam
> Fidentine, putas cupisque credi?
> sic dentata sibi videtur Aegle
> emptis ossibus Indicoque cornu.
>
> You, Fidentinus, court a poet's crown
> by passing off my verses as your own:
> so Aegle counterfeits reality
> with teeth of bone and Indian ivory.

And again—

> et tres sunt tibi, Maximina, dentes,
> sed plane piceique buxeique.
>
> Three teeth has Maximina, all of which
> are plainly boxwood, and as black as pitch.

Archæologists have shown, by recovered specimens, that these artificial teeth of ivory, bone, or boxwood, were generally fixed by wiring them to adjacent firm teeth. Guerini suggests that the Romans learnt this procedure from their Etruscan neighbours, and not from Greek immigrants. Mention of gold for binding the teeth together is found in the Law of the Twelve Tables, composed by the Decemviri at Rome in 450 B.C., whereas the influx of Greek physicians into Rome did not commence till near the end of the third century B.C. Moreover, many examples of this gold work have been found among Etruscan remains. But there is at least a suggestion in Martial that something of the nature of artificial dentures was also worn, for he says:

> Nec aliter dentes quam serica nocte reponas.

Teeth that could be laid aside at bedtime as readily as the clothing cannot have been fixed with wires, and must almost necessarily have been worn on some form of movable denture. Guerini claims to have identified one of the period, but his exposition does not seem to me very convincing.

The Care of the Teeth.

The care of the teeth is another fertile subject for Martial's wit. Tooth-picks and dentifrices assume a special prominence. The favourite material for tooth-picks was lentisc wood, which was believed incidentally to exert a favourable pharmacological action. Galen, for example, recommends holding in the mouth warm oil of lentisc to relieve pain due to disease of the gums.

> Lentiscum melius: sed si tibi frondea cuspis
> defuerit, dentes pinna levare potest.

. . . .

Pliny is more explicit on the subject of quill tooth-picks: he says that picking the teeth with the quill of a vulture turns the breath sour, while a porcupine's quill makes them firm. A passage of Petronius, in which he describes a tooth-pick as 'spina argentea,' shows that they were sometimes made of silver, and Roman tooth-picks of gold, of pre-Christian times, have also been unearthed. A tooth-pick and an ear-pick, to which latter Martial alludes in the following epigram, have also been discovered combined in a single instrument:

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[1] Natural History, xxiii., 77.
[2] De Compositione Medicamentorum, x.
[3] Natural History, xxii., 49.

Si tibi morosa prurigine verminat auris,
arma damus tantis apta libidinibus.

If thine ear chance to trouble thee
with creeping irritation,
an instrument we guarantee
to stop such titillation.

Ear-picks had either a spatulate end or a flat head, like a small coin, set at right angles on the end of a shaft.

Roman non-medical writers make constant mention of dentifrices, showing how greatly the Romans esteemed the appearance of the teeth. Pliny recommends cleaning blackened teeth by rubbing them with burnt nitre. Even the medical writers extol the dentifrice. Celsus says that stains of the teeth should first be scraped and then rubbed with a dentifrice. Scribonius Largus, who describes many dentifrices, seems to regard them, as Martial does, as intended to preserve the beauty rather than the health of the teeth. From him we learn that calcined stag's horn was one of the ingredients of the tooth-powder used by Messalina, the wife of the Emperor Claudius, so that the calcareous constituents of modern tooth-powders have an ancient pedigree. Galen, in the following century, recommends special medicaments and dentifrices for restoring the whiteness of the teeth, and recognises much more than Celsus and Scribonius Largus, that they are also useful to keep the teeth free from disease. To Martial, however, the dentifrice is an item of the repertoire of the beauty specialist. In this epigram the dentifrice addresses some aged hag:

Quid mecum est tibi? me puella sumat:
emptos non soleo polire dentes

I'm not for thee: on use of me
only a maiden ventures:
I have no wish to give polish
to artificial dentures.

Massage, Drugs, &c.

Massage flourished in Rome, and then as now proved attractive for other than its legitimate uses. It was practised both by men and women, but the masseuse chiefly seems to have made a fine art of its abuse—*corruptio optimi pessima.* Seneca says that he would rather thrust his hand into the fire than submit it to the manipulations of a rubber of either sex. One epigram alludes to massage as an accessory of the luxuries of the table:

Stat exoletus suggeritque ructanti
pinnas rubentes cuspidesque lentisci
et aestuanti tenue ventilat frigus
supina prasino concubina flabello.

*   *   *   *   *

percurrit agili corpus arte tractatrix
manumque doctam spargit omnibus membris.

Tooth picks in hand a minion stands and gives
red feathers, when his master's stomach heaves:
when hot, beside him lies a courtesan
to waft fresh coolness from a leek-green fan.
A masseuse nimbly o'er his body skims
and makes deft passes over all his limbs.

The red feathers of the flamingo were used to excite vomiting.

Now and again Martial gives us a peep into the armamentarium of the practising physician. He shows us his ivory medicine-chest:

Artis ebur medicae narthecia cernis: habebis
munera quae cuperet Paccius esse sua.

Here's a medicine-chest you see
all made out of ivory:
in this present you'll acquire
all that Paccius could desire.

He names also some of the drugs in common use; here are some remedies for constipation:

Utere lactucis et mollibus utere malvis:
nam faciem durum, Phoebe, cacantis habes.

Use mallows and use lettuces
that soften defaecation:
for you present the facies
of chronic constipation.

Lettuces enjoyed a great vogue in Roman medicine. Antonius Musa was said to have saved the life of the Emperor Augustus by a diet of lettuces, and received in return a huge fee, a gold ring, and a public statue adjacent to that of Æsculapius.

Here is an anticipation of Carlsbad plums:

Pruna peregrinae carie rugosa senectae
sume: solent duri solvere ventris onus.

Try prunes, they're sold wrinkled and old,
brought from some foreign nation:
they'll be of use in setting loose
thy belly's constipation.

Next we have some lines addressed to a girdle, which remind us of their former uses in obstetric practice:

Longa satis nunc sum: dulci sed pondere venter
si tumeat, fiam tunc tibi zona brevis.

Now I'm long enough, but when
with delicious tension
burdened is thy belly, then
I shall need extension.

An Epitaph on a Child.

It should be borne in mind that Martial possessed no medical knowledge, and correspondingly we find in his epigrams no living pictures of disease, but these tender lines on the death of little Canace seem to suggest that the child died of cancrum oris:

Aeolidos Canace iacet hoc tumulata sepulchro
ultima cui parvae septima venit hiems.
ah scelus, ah facinus! properas qui flere, viator,
non licet hic vitae de brevitate queri:
tristius est leto leti genus: horrida vultus
abstulit et tenero sedit in ore lues,
ipsaque crudeles ederunt oscula morbi
nec data sunt nigris tota labella rogis.
Si tam praecipiti fuerant ventura volatu
debuerant alia fata venire via.
Sed mors vo [illegible] [illegible]dere blandae,
ne posset [illegible] deas.

Here lieth Aeolis' daughter Canace,
Her seventh winter was her last: ah me!
Ah cruel shame! haste by, and shed no tears,
Traveller, lamenting her brief span of years.
Sadder than death death's fashion: a foul growth
Made ravenous session on her tender mouth,
Consuming it, and left no lips entire
To lavish kisses on the funeral fire.
If fate must needs swoop down in headlong flight,
It should have come to her in gentler plight:
Death sped to close her gentle voice's gate,
So that it might not bend relentless fate.

In this epitaph Martial is seen at his best: the language and the sentiment are chaste and tender, and stand out in arresting contrast to the gross obscenity of so many of his epigrams. It is not the only epigram in which he shows his real love of children, a characteristic which perhaps he brought with him from Spain, where the fondness lavished on children is surpassed only by the cruelty inflicted on animals. Martial's foulness is no basic feature of his mind. He desired above all things to be popular, and to this end he supplied his readers with the sort of garbage they desired, but at the same time has made atonement to posterity in the exceeding fitness of his diction and the grace and variety of his metres.

Malingering.

In several epigrams Martial holds up the malingerer to ridicule. Disease is only too apt to be simulated for the sympathy it excites and the service it exacts, and in Rome there was the additional incentive of congratulatory presents on recovery, to increase its prevalence.

Aegrotas uno decies aut saepius anno,
 nec tibi sed nobis hoc, Polycharme, nocet:
nam quotiens surgis, soteria poscis amicos,
 sit pudor: aegrota iam, Polycharme, semel.

You're sick ten times or oftener every year,
 though yours the sickness we the suffering bear:
 at each recovery for gifts you call,
 Fie! Polycharmus; sicken once for all.

Another feigns infirmity for his stomach's sake:

Leniat ut fauces medicus, quas aspera vexat
 adsiduo tussis, Parthenopaee, tibi,
mella dari nucleosque iubet dulcesque placentas
 et quicquid pueros non sinit esse truces.
At tu non cessas totis tussire diebus.
 Non est haec tussis, Parthenopaee, gula est.

To soothe Parthenopaeus' cough, which serves to make
 his throat the seat of chronic irritation,
his doctor orders honey, kernels, and sweet cake,
 and all that weans small children from temptation:
it's not to ease his throat, but for his stomach's sake.
 Parthenopaeus coughs without cessation.

Another simulates gout in his own person, just as a later generation invokes the legitimate uncertainty of a wife's health under the inexorable pressure of social necessity.

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
et sanas linit obligatque plantas
inceditque gradu laborioso—
quantum cura potest et ars doloris!
desit fingere Caelius podagram.

[illegible]
[illegible]
[illegible]
he came perforce to counterfeiting gout.
While he exhibits such excess of zeal
to prove his artificial suffering real,
with bandages and ointments plastered thick
on healthy feet, supported by a stick—
(how trickery and brooding magnify
our ailments!)—: Caelius ceased to act a lie.

Another man is well enough to plead, but not to pay:

Litigat et podagra Diodorus, Flacce, laborat:
 sed nil patrono porrigit; haec cheragra est.

Diodorus, while he sues in court,
 on gouty feet can stand:
but when his lawyer's bill is brought,
 the gout sets fast his hand.

Gout and other Subjects.

Gout seems to have been exceedingly common in Rome, if we may judge from the frequency of its mention in Martial. On this point we have the evidence of his elder contemporary Pliny, who says, "Gout used to be an extremely rare disease, not in the times of our fathers and grandfathers only, but even within my own memory." No doubt the increased frequency was referable to the excessive indulgence in rich foods and in wine in place of the frugal simplicity of earlier years. In one of his epigrams Martial seems to hint at the importance of purin bodies as a precursor of gout, and recognises its association with hepatic inadequacy:

Mullorum leporumque et suminis exitus hic est,
 sulphureusque color carnificesque pedes.

Of hares, and mullet, and sow's teat,
 what's the termination?—
bilious colour and the feet
 racked with inflammation.

Another epigram touches the fringe of very recent pathology, for Martial explains the phenomena of acquired tolerance, which according to ancient tradition was conspicuously displayed in the person of Mithridates, King of Pontus:

Profecit poto Mithridates saepe veneno
 toxica ne possent saeva nocere sibi:
tu quoque cavisti cenando tam male semper
 ne posses umquam, Cinna, perire fame.

[illegible] ngth
 [illegible]
[illegible]
 [illegible]

Pliny says that, after the defeat of Mithridates, Pompey found in his private cabinet the recipe for his antidote in his own handwriting: 'Take two dried walnuts, two figs, and twenty leaves of rue: pound them all together with the addition of a grain of salt: if a person takes this mixture fasting, he will be proof against all poisons for that day.' Galen [4] says that Marcus Aurelius used the prescription regularly.

Martial vies with Herrick in the number of epigrams he devotes to the unsavoury subject of bad breath. Here is a sample:—

Quod nullum calicem tuum propinas
 humane facis, Horme, non superbe.

That Hormus does not pass the wine
 he's tasted to the company
is not of arrogance a sign,
 but only mere humanity

In these Martial fails, with Herrick, to rise above his subject, but Herrick for once has contrived to impart to his 'Jone and Jane' a degree of daintiness worthy of a better theme.

Alcoholism.

In several epigrams Martial jibes at the futile efforts of the alcoholic to disguise the odour of the breath by means of perfumes, and incidentally he depicts the alcoholic facies in the one that follows. It contains also a covert allusion to those poetasters who seek inspiration by eating bay leaves, and to bring out this *double entente* I have translated 'bibit' as 'chews.'

Fetere multo Myrtale solet vino,
sed fallat ut nos, folia devorat lauri
merumque cautâ fronde, non aquâ, miscet.
[illegible]
 [illegible]
 [illegible]

Though redolent of wine she yet deceives
our nostrils with the odour of bay leaves,
'tis these, not water, that her wine receives.
As often as you see her, all ablaze
with starting venules on her flaming face,
approaching you, say 'Myrtale chews bays.'

Rome was familiar also, as we are, with that other type of alcoholic facies that suggests the appearance of a water-logged suet pudding. Pliny describes it: "From wine comes that pallid hue, those drooping eyelids, those sore eyes, those tremulous hands, unable to hold with steadiness the overflowing vessel," and so on.

And here we must part company with Martial.

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[4] De Antidotis I, 1.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the meeting of the Royal Commission held on Nov. 24th, evidence was given by Dr. J. C. Dunlop, superintendent of the Statistical Department in the office of the Registrar-General for Scotland.

Dr. Dunlop gave figures to show that syphilis and parasyphilitic diseases do not hold a very important place in the list of the principal causes of death in Scotland. The figures for 1911 showed that the number of deaths due to all tuberculous diseases was 8887, to phthisis 5451, cancer 4948, accident 2624, whooping-cough 2347, measles 923, syphilis and parasyphilitic diseases 552 (or including aneurysm 713), scarlet fever 541, diabetes 445, rheumatism, 469, appendicitis 410, enteric fever 272, suicide 253.

It was Dr. Dunlop's impression from consideration of the figures from 1880 onwards that there was a decrease in venereal diseases in Scotland. He agreed that the figures available with regard to deaths from these diseases were, on account of defects in certification and diagnosis, only to be accepted with reservations, and that the true amount of deaths from these causes is almost certainly considerably greater than that shown by registration; but looking to the facts that diagnosis and certification are improving, he considered that the decline which the figures showed in the number of deaths pointed to a genuine decrease in syphilis.

Dealing with the question of confidential certification of deaths, he was aware that there was a body of opinion in its favour, but he thought that from the point of view of the Registrar-General there might be practical difficulties about adopting it.

A scheme under which a general certificate of death would be sent to the local registrar and a confidential certificate, giving details of the cause of death, to the central office in Edinburgh involved a risk that the latter would not receive a certificate in every case, and consequently endangered the completeness of the register.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8491 births and 4839 deaths were registered during the week ended Saturday, Nov. 29th. The annual rate of mortality in these towns, which had been 13·3, 13·8, and 13·4 per 1000 in the three preceding weeks, increased to 14·1 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 13·7, against 13·6 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 6·0 in Bath, 6·8 in Oxford, 7·4 in Southend-on-Sea, 7·5 in York, and 7·6 in Eastbourne, to 19·6 in Swansea, 19·8 in South Shields and in Aberdare, 20·2 in Bootle and in Blackburn, 20·3 in Bury, and 20·8 in Middlesbrough.

The 4839 deaths from all causes were 245 in excess of the number in the previous week, and included 348 which were referred to the principal epidemic diseases, against numbers steadily declining from 925 to 361 in the seven preceding weeks. Of these 348 deaths, 152 resulted from infantile diarrhœal diseases, 65 from diphtheria, 39 from measles, 39 from whooping-cough, 35 from scarlet fever, and 18 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·0, against 1·1 per 1000 in each of the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily decreased from 769 to 149 in the seven preceding weeks, slightly rose to 152 last week; of this number 46 were recorded in London, 11 in Birmingham, 9 in Liverpool, 6 in Manchester, and 4 each in Sheffield, Sunderland, and Rhondda. The deaths referred to diphtheria, which had been 46, 63, and 76 in the three preceding weeks, declined to 65 last week, and included 11 in Birmingham, 9 in London, 4 in Manchester, 3 in Stoke-on-Trent, and 3 in Bradford. The fatal cases of measles, which had been 30, 43, and 50 in the three preceding weeks, fell to 39 last week; 10 deaths occurred in Sheffield, 6 in Norwich, and 3 each in London, Stoke-on-Trent, and Leicester. The deaths attributed to whooping-cough, which had been 46, 35, and 33 in the three preceding weeks, rose to 39 last week, and included 5 in London, 5 in Birmingham, 4 in Liverpool, 3 in Wallasey, 2 in West Ham, and 2 in Oldham. The deaths referred to scarlet fever, which had been 34, 36, and 32 in the three preceding weeks, rose to 35 last week, of which number 5 were recorded in London, 4 in Manchester, and 3 in Sheffield. The fatal cases of enteric fever, which had been 18, 16, and 21 in the three preceding weeks, fell to 18 last week, and included 2 in Sheffield and 2 in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily risen from 2112 to 3980 in the 12 preceding weeks, had further increased to 4112 on Saturday last; 618 new cases were admitted during the week, against 619, 597, and 558 in the three preceding weeks. These hospitals also contained on Saturday last 1200 cases of diphtheria, 164 of whooping-cough, 73 of enteric fever, and 57 of measles, but not one of small-pox. The 1224 deaths from all causes in London were 55 in excess of the number in the previous week, and were equal to an annual death-rate of 14·1 per 1000. The deaths referred to diseases of the respiratory system, which had been 205, 206, and 214 in the three preceding weeks, further rose to 261 last week, but were 25 less than the number recorded in the corresponding week of last year.

Of the 4839 deaths from all causes in the 96 towns, 186 were attributed to different forms of violence, and 403 were the subject of coroners' inquests. The causes of 36, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Sheffield, Leeds, Bristol, Bradford, Newcastle, Nottingham, and in 53 other smaller towns. Of the 36 uncertified causes of death, 6 were recorded in Liverpool, 5 in Birmingham, 3 in Burnley, 3 in Blackburn, and 2 in Dudley.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1022 births and 737 deaths were registered during the week ended Saturday, Nov. 29th. The annual rate of mortality in these towns, which had been 14·0, 16·2, and 15·8 per 1000 in the three preceding weeks, rose to 17·0 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 15·0, against a corresponding rate of 13·7 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rate last week ranged from 6·8 in Hamilton, 8·5 in Clydebank, and 10·4 in Perth, to 19·5 in Leith, 22·2 in Kirkcaldy, and 24·1 in Coatbridge.

The 737 deaths from all causes were 52 in excess of the number in the previous week, and included 75 which were referred to the principal epidemic diseases, against 84 and 68 in the two preceding weeks. Of these 75 deaths, 35 resulted from measles, 14 from diphtheria, 11 from scarlet fever, 8 from infantile diarrhœal diseases, and 7 from whooping-cough, but not one from enteric fever or from small-pox. These 75 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·7, against 1·0 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 11, 36, and 33 in the three preceding weeks, rose to 35 last week; of this number 24 were registered in Glasgow, 3 in Edinburgh, 2 in Paisley, and 2 in Kirkcaldy. The deaths referred to diphtheria, which had been 11, 10, and 10 in the three preceding weeks, rose to 14 last week, and included 6 in Glasgow and 3 in Aberdeen. The fatal cases of scarlet fever, which had declined from 14 to 6 in the four preceding weeks, rose to 11 last week, and comprised 10 in Glasgow and 1 in Greenock. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 19, 21, and 14 in the three preceding weeks, further declined to 8 last week, of which 3 deaths were recorded in Dundee and 2 in Glasgow. The 7 deaths referred to whooping-cough were double the average in the earlier weeks of the quarter, and comprised 4 in Glasgow, 2 in Coatbridge, and 1 in Edinburgh.

The deaths referred to diseases of the respiratory system, which had been 84, 97, and 119 in the three preceding weeks, further rose to 129 in the week under notice; 26 deaths were attributed to different forms of violence, against 24 and 30 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of this year, 598 births and 382 deaths were registered during the week ended Saturday, Nov. 29th. The annual rate of mortality in these towns, which had been 17·6, 18·8, and 16·4 per 1000 in the three preceding weeks, rose to 16·6 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these Irish towns averaged 17·3 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·7, while in the 16 Scotch towns [illegible] death-rate last week [illegible] 14·1 in London and [illegible] per 1000. [illegible] causes were 4 in excess of the number in the previous week [illegible] from infantile diarrhœal diseases, 5 from measles, 5 from scarlet fever, 4 from diphtheria, 3 from enteric fever, and 1 from whooping-cough, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3 per 1000; in the 96 large English towns the corresponding rate did not exceed 1·0, while in the 16 Scotch towns it reached 1·7 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 16, 15, and 18 in the three preceding weeks, declined to 12 last week, of which 7 were registered in Dublin and 2 in Cork. The deaths referred to scarlet fever, which had been 8, 7, and [illegible] in Waterford. In addition to the above deaths a fatal case of typhus was registered in Dublin.

The deaths referred to diseases of the respiratory system, which had been 69, 73, and 68 in the three preceding weeks, rose to 76 in the week under notice. Of the 382 deaths from all causes, 123, or 32 per cent., occurred in public institutions, and 7 resulted from various forms of violence. The causes of 11, or 2·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes did not exceed 0·7 per cent.

THE SERVICES.

THE SHORTAGE IN THE MEDICAL BRANCH OF THE ROYAL NAVY.

[illegible] Navy:—

1. [illegible] r as minor punishments [illegible] taff has been delegated to [illegible] three large hospitals at [illegible] ill in future preside at [illegible] ofessional subjects [illegible] lical officers being [illegible] receive fees in the [illegible] Medical Corps, so [illegible]

5. Their Lordships approve in principle the proposal to [illegible] Hong-Kong.

THE VOLUNTEER RESERVE OF THE ROYAL NAVY.

The following Regulations concerning the appointment, training, and duties of medical officers of the Royal Naval [illegible] public, and the con- [illegible] gulations will be of [illegible] vill be observed that [illegible] to 28 days' training [illegible] ll as two courses at [illegible] re, is designed to be [illegible] es of pay appear to [illegible] out that, in selecting medical men for the appointment of Surgeon and Agent at the various ports, preference will be given to those who hold commissions in the Royal Naval Volunteer Reserve. We think that there must be many members of our profession to whom this service will appeal favourably, especially those who, with a natural inclination towards [illegible] the defence of their country.

[illegible] medical [illegible] lusive of [illegible] of eight [illegible] above numbers, certain officers may be retained in the lists as [illegible] at the discretion of the Admiralty, be retained on the Surgeons' List as "Supernumerary" (see paragraph 2). After [illegible] 20 years' service will be compulsory. Staff Surgeons who complete eight years' service in that rank, and who have not been advanced, may, at the discretion of the [illegible] Surgeons' List as [illegible] on that list until [illegible] Royal Naval Volun- [illegible] Surgeons who complete 20 years in the Royal Naval Volunteer Reserve will be placed on the retired list, and will be eligible for the rank [illegible] iralty. "Super- [illegible] Staff Surgeons [illegible] ies on the Staff [illegible] time at their option [illegible] alify for retired rank [illegible] (including "Supernumerary" Staff [illegible] option, but will [illegible] service in the [illegible] promoted to Fleet Surgeon [illegible] 20 years' total service before [illegible] rs (except [illegible] ary" Staff [illegible] the Royal [illegible] ompanies, [illegible] him." All [illegible] s will be "unattached."

10. *Training in Peace.*—(*a*) Surgeons, R.N.V.R., will be required to undergo the following courses of training, and to obtain certificates from the Medical Director General of the Navy that they have been instructed in these duties and have taken full advantage of the instruction; (*b*) Staff Surgeons, R.N.V.R., will be permitted to undergo the following courses of training, if they so wish and their services are required, under conditions similar to those laid down in the case of Surgeons, R.N.V.R. While so serving these officers will receive the pay of their rank and the usual travelling allowances. Certificates of training will be issued as for Surgeons, R.N.V.R.

Training Afloat in one of H.M. Ships.—Once in first four years' service and once in second four years' service as Surgeon, at an interval of not less than two years. The period of training will be from 14 to 28 days (at officer's option), and the course of instruction will be in: (1) The arrangements for the treatment of wounded in action; (2) the keeping and rendering of accounts and returns; (3) the victualling of the sick; (4) the method of sending patients to hospital.

Hospital Course at a Naval Hospital.—Once in the first four years' service and once in second four years' service at an interval of not less than two years. The period of course will be 14 days, and will embrace instruction in—(1) the routine of ward work; (2) the admission and discharge of patients; (3) the dieting of hospital patients; (4) the examination of recruits; (5) the method of keeping and rendering returns. "Supernumerary" Surgeons, "Supernumerary" Staff Surgeons, and Fleet Surgeons will not be eligible to undergo further training.

11. *Pay, &c., during Peace Training.*—While under training as above Surgeons R.N.V.R. will be paid as follows:—*Training afloat:* Surgeons under two years' seniority, 14*s.* per diem; Surgeons of two years' seniority, 15*s.* per diem; Surgeons of four years' seniority, 17*s.* per diem; Surgeons of six years' seniority, 18*s.* per diem. *Hospital course:* Pay as above and also hospital allowance at the usual naval rate. Officers will travel between their place of residence and H.M. ship or hospital at the public expense under the Regulations as laid down for naval medical officers of equivalent rank.

12. *Uniform.*—Officers before going through a course of training will be required to provide themselves with the following uniform:—No. 4 Frock Coat and No. 5 "Undress": Frock coat, undress coat (monkey jacket), morning waistcoat, trousers (plain, blue), white trousers (during summer months), cap (and cap covers from May 1st to Sept. 30th), sword and undress belt. No. 7 "Mess Undress": Jacket, evening waistcoat (blue), trousers (plain, blue). An allowance of £20 in aid of outfit will be granted to Surgeons on their completing their first course of training afloat or their first hospital course. In the event of an officer resigning within three years he is liable to refund the allowance paid to him.

13. *Capitation Allowances.*—A capitation allowance at the rate of 50*s.* annually will be granted for each medical officer who is attached to a division or outlying company (see paragraph 9) under the conditions laid down in the Royal Naval Volunteer Reserve Regulations, and is payable to the division concerned. An additional or special allowance at the rate of 30*s.* annually will be similarly granted for each "attached" Surgeon, Staff or Fleet Surgeon, who has completed both a course of training afloat and a hospital course.

14. *Service when "called out."*—Whenever the Admiralty call out the Naval Volunteers, or any of them, for actual service, they will be liable to serve either ashore or afloat, as may be directed by the Admiralty, and anywhere the Admiralty may have need of their services, with the understanding that those services shall, as far as practicable, be confined to Home waters and the Mediterranean. (2) As far as possible Fleet and Staff Surgeons and "Supernumerary" Surgeons, if required, would be utilised for shore appointments only.

15. *Pay when "called out."*—When called out, medical officers to be paid as follows: Surgeons under two years' seniority, 14*s.* + 8*s.* per diem (special allowance); Surgeons of two years' seniority, 15*s.* + 7*s.* per diem (special allowance); Surgeons of four years' seniority, 17*s.* + 5*s.* per diem (special allowance); Surgeons of six years' seniority, 18*s.* + 6*s.* per diem (special allowance); Staff Surgeons under two years' seniority, 20*s* + 5*s.* per diem (special allowance); Staff Surgeons of two years' seniority, 21*s.* + 5*s.* per diem (special allowance); Staff Surgeons of four years' seniority, 24*s.* + 5*s.* per diem (special allowance); Staff Surgeons of six years' seniority, 25*s.* + 5*s.* per diem (special allowance); Fleet Surgeons under two years' seniority, 27*s.* + 5*s.* per diem (special allowance); Fleet Surgeons of two years' seniority, 28*s.* + 5*s.* per diem (special allowance); Fleet Surgeons of four years' seniority, 30*s.* + 5*s.* per diem (special allowance); Fleet Surgeons of six years' seniority, 31*s.* + 5*s.* per diem (special allowance); Fleet Surgeons of eight years' seniority, 33*s.* + 5*s.* per diem (special allowance); Fleet Surgeons of ten years' seniority, 35*s.* + 5*s.* per diem (special allowance); together with hospital, lodging, and other allowances, under the same conditions and at same rates as those payable to naval medical officers.

16. *Pensions for Wounds.*—Officers who may receive hurts or wounds whilst on active service in the Royal Navy, or whilst undergoing training, will receive the same pensions and allowances as those to which officers in the Royal Navy of corresponding rank would be entitled in similar circumstances.

17. *Pensions for Widows and Children.*—Widows and children (if any) of officers [illegible] accident resulting [illegible] receive the same [illegible] the widows and [illegible] rank would be entitled to in similar circumstances.

18. When selecting medic[illegible] as Surgeons and Agents or [illegible] give preference to candidates who hold commissions in the Royal Naval Volunteer Reserve.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been notified:—Fleet-Surgeons: H. Clift to the *Argonaut* and for group of ships of Third Fleet; A. Maclean to the *Lion*; J. C. Ferguson to the Royal Marine Artillery; G. T. Reid to the *Hindustan*; and H. C. Arathoon to the *Goliath*. Staff-Surgeons: H. Cooper to the *Vivid*; and A. Woollcombe to the *Venus*, and to the *Woolwich*, on commissioning. Surgeon: H. M. Whelan to the *Essex*, on commissioning.

ROYAL ARMY MEDICAL CORPS.

Surgeon-General L. E. Anderson, C.B., Deputy Director of Medical Services to the Irish Command, has been placed under orders to attend the board of Surgeon-Generals to be held at the War Office for the selection of medical officers for promotion.

Lieutenant-Colonel J. F. Donegan, recruiting medical officer at Woolwich, has been placed under orders to embark for a tour of service with the Southern Army in India, and on arrival will be appointed to the Ninth (Secunderabad) Division for duty. Lieutenant-Colonel M. O'D. Braddell, on return home from the Military Hospital at Cawnpore Cantonment, has been appointed to the Irish Command for duty. Lieutenant-Colonel A. T. I. Lilly has been transferred from Belgaum Cantonment and appointed to hold charge of the Military Hospital at [illegible] Lieutenant-Colonel C. W. H. Whitest[illegible] Director of Medical Services to the [illegible] of the Northern Army in India for mobilisation, has been placed under orders to embark at Bombay for home on Dec. 19th. Lieutenant-Colonel M. W. Russell, instructor of medical services at the Staff College, Camberley, has been placed under orders to embark for a tour of service at Malta. Lieutenant-Colonel W. H. Starr has taken over charge of the Military Hospital at Lichfield. Lieutenant-Colonel C. W. R. Healey has joined the London District on return home from Nasirabad Cantonment.

Major C. C. Cumming has embarked for a tour of service in Malta. Major H. F. G. Stallard has been selected for appointment as Deputy Assistant Director of Medical Services to the Fifth (Mhow) Division of the Southern Army in India for mobilisation, in succession to Captain M. B. H. Ritchie, whose tenure of the appointment has expired. Major E. W. Slayter, on return home from India, tour expired, has been placed under orders to join the Irish Command on Jan. 12th next, and on arrival will be appointed to the Cork District for duty. Major J. V. Forrest has arrived home for duty from the Military Hospital at Khartoum. Major W. A. Woodside has been transferred from the Military Hospital at Chakrata to Agra Cantonment. Major N. Faichnie has been appointed Senior Medical Officer on board the transport s.s. *Rewa*, which leaves Bombay for Southampton on Dec. 10th with time-expired troops. Major E. Bennett has been transferred from the Military Hospital at Poona Cantonment and appointed Senior Medical Officer at Purandhar. Major A. W. A. Irwin has joined for duty at Clonmel. Major E. P. Connolly has been transferred from the Military Hospital at Murree Cantonment and appointed Deputy Assistant Director of Medical Services to the Second (Rawal Pindi) Division of the Northern Army in India, in succession to Major G. St. C. Thorn, whose tenure of the appointment has expired. Major F. Harvey has embarked for a tour of service in India.

Captain L. A. A. Andrews has been selected for appointment as Specialist in Dermatology and Venereal Diseases to the Northern Command (England). Captain H. W. Russell has embarked for a tour of service with the Third (Lahore) Division of the Northern Army in India. Captain H. V. Bagshawe has been transferred from the Military Hospital at Cairo to Alexandria. Captain R. T. Collins has taken up duty at the Military Hospital, Glencorse, on transfer from Buddon Camp. Captain T. W. Browne on arrival home from the Military Hospital at Jhansi Cantonment, tour expired, [illegible] the Irish Command [illegible] ppointed to the Cork [illegible] has been appointed for duty on board the transport s.s. *Rewa*, which leaves Bombay for Southampton on Dec. 10th with time-expired [illegible]

[illegible] B. G. Patch has taken up duty at Derby on transfer from the Military Hospital at Nottingham. Captain V. T. Carruthers has taken up duty at the Military [illegible] P. C. T. Davy has joined [illegible] College, Grosvenor-road, for [illegible] uction to the rank of Major. [illegible] Painton has been transferr [illegible] pital at Colchester to the R [illegible] Grosvenor-road, S.W. Captain J. Mackenzie has embarked for a tour of service with the Eighth (Lucknow) Division of the Northern Army in India. Captain M. Keane has been transferred from the Military Hospital at Bulford Camp, Salisbury Plain, to Tidworth. Captain G. B. Edwards has [illegible] tern Command on transfer from [illegible] O'Grady has been appointed for [illegible] transport s.s. *Dongola* leaving [illegible] with time-expired [illegible] n transferred from [illegible] al. Captain E. C. [illegible] Hospital, Dinapore, [illegible] H. J. Crossley has embarked for a tour of service with the Northern Army in India, and on arrival will be appointed to the Seventh (Meerut) Division for duty. Captain O. C. P. Cooke has been [illegible] Hospital at Cork to Tipperary. [illegible] n up duty at the Military Hos- [illegible] transfer from Nasirabad.

Lieutenant A. S. Heale has embarked at Malta for a tour [illegible] P. Hayes has been trans- [illegible] Bangalore Cantonment [illegible] Davidson has taken up [illegible] ow, on transfer from [illegible] has joined at Devonport. Lieutenant L. Buck [illegible] service with the Northern A [illegible] has joined the Military Hospital at Inverness. Lieutenant [illegible] th the [illegible] Lieu- [illegible] to the [illegible] Little [illegible] ilitary [illegible] barked [illegible] ia, and [illegible] eerut) [illegible] s been [illegible] ork for [illegible] uty at Galway on transfer from the Military Hospital at the Curragh Camp.

INDIAN MEDICAL SERVICE.

[illegible] derson has been granted [illegible] ral leave of absence home [illegible] J. Crimmin, V.C., C.B., C.I.E., has been selec [illegible] ank of [illegible] sistant [illegible] rabad [illegible] R. G. [illegible] adabad [illegible] Lieutenant- [illegible] nently at the [illegible] India. Lieu- [illegible] up duty as [illegible]

Major T. S. B. [illegible] as Civil Surgeo [illegible] has been appointed to [illegible] E. C. MacLeod has been [illegible] Calcutta, during the absence on seven months' leave of Major D. McCay. Major R. W. R. Knox, residency surgeon [illegible] the Bombay [illegible] Steen has been selected for advancement to the rank of Major. Captain F. C. Frazer has been appointed to officiate as District Medical and Sanitary Officer at North Arcot. Captain D. G. Cooper h [illegible] Specialist in Electrical [illegible] of the Northern Army [illegible] been granted six mont [illegible] O'Neil has been granted 18 months' combined and study leave home from India. Captain J. Anderson has been selected for appointment as Civil Surgeon at Miranshah. Captain P. M. Rennie has joined at Delhi. Captain R. F. Hibbert has been granted an extension of leave of absence home from India for two months.

LONDON SCHOOL OF CLINICAL MEDICINE (POST-GRADUATE).—The annual dinner of the Post-Graduate Medical School in connexion with the "Dreadnought" Seamen's Hospital, Greenwich, was held on Friday, Nov 28th at Princes' Restaurant *Surgeon-General* Arthur W. May, C.B., Medical Director-General of the Royal Navy, presided, and the company numbered about 160, of whom about 30 belonged to the Navy Medical Service. Among those present were Sir Thomas Barlow, President of the Royal College of Physicians of London; Sir Archibald Geikie, President of the Royal Society; Sir Francis Champneys, President of the Royal Society of Medicine; Sir Dyce Duckworth, senior physician to the hospital; Surgeon-General Sir Launcelotte Gubbins, Surgeon-General Sir James Porter, Sir John Rose Bradford Sir Havelock Charles, Sir Malcolm Morris, Sir StClair Thomson, Professor R. T. Hewlett, Sir William Bennett, Sir J. Mackenzie Davidson, Dr. G. Newton Pitt, Sir Robert Burnet, and Mr. William Turner and Mr. P. J. Michelli, respectively senior surgeon and secretary to the Seamen's Hospital. The chairman, in proposing the toast of "The London School of Clinical Medicine," said that although the work of the post-graduate school was appreciated by the medical profession and by those interested in scientific work, it was [illegible] was so appreciative. [illegible] principle that there w [illegible] medical and surgical science. At the present time they were on the wave, if not at the top of the wave, of an extraordinary advance in medical science He concluded with an acknowledgment of the great service which the "Dreadnought" College was doing for the *personnel* of the Navy through the post-graduate education of naval medical officers The toast was responded to by the Dean, Mr. C. C. Choyce, who reviewed the work and progress and needs of the school. Sir Archibald Geikie, in proposing the health of the medical profession, spoke of the remarkable changes which had taken place during the past 300 years in the position of medicine. In all directions medical men had not only advanced their own profession, but to a very large extent they had gone out of their own sphere and advanced other branches of science. In reply, Sir Thomas Barlow returned the compliment by pointing out that the enormous medical advances of recent years had been due to the help gained from the auxiliary sciences. He maintained, amidst applause, that the future progress of medical science would depend upon the thoroughness of the scientific training of the men of to-day, while claiming that the value of the work of past generations should receive its due place in the education of the student Sir James Crichton-Browne, who also responded, touched upon various subjects—from quack medicines to the passage of the œsophageal tube—in his own inimitable manner. Finally, the chairman's health was proposed by Captain H. B. Hooper, who spoke warmly of the Medical Director-General's commonsense and broad outlook, and his early prowess as an international footballer; and Surgeon-General May replied in a few sailor-like words.

As a rule, only young, vigorous men, fond of the country and outdoor life, attempt such work. After they reach middle age they generally sell their practice and go to towns, or at least to better populated districts, where the exposure and physical strain are not so great. At times, also, it is absolutely dangerous to cross the moors, and loss of life has not infrequently occurred during snow or fog. When there is real danger to life medical practitioners are not obliged to answer a patient's call, but I have never heard of this plea being urged. At Dartmoor there is a dwelling that is 16 miles away from the nearest doctor. There is a telegraph station at hand, and it is no trifling matter to receive a telegram to start on a 16-mile journey over this bleak and, in certain seasons, dangerous moor. It is evident that the panel practitioner would require a good many patients who asked no services to counterbalance the incidence of a case requiring frequent attention in this outlying homestead.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

SCOTLAND.

National Health Insurance in Scotland.

THE Scottish Insurance Commissioners have issued a memorandum revising the conditions of medical benefit to be given for the year commencing Jan. 12th, 1914. The new regulations deal, firstly, with the allocation of insured persons who remove from their given address either (1) permanently or (2) temporarily. Upon permanent or semi-permanent removal insured persons can make a fresh choice of the method by which they will receive medical benefit in their new place of residence. Upon temporary removal all persons may elect to be treated either by a panel doctor or an approved institution, but on returning to their original residence they revert to the arrangement originally made. Persons making their own arrangements will on permanent removal be obliged to make a fresh choice of method; during temporary absences from home they will be able to obtain treatment at their own expense, and apply for a contribution from the committee by whom permission has been granted. Clauses 13 and 14 of the doctors' agreement have been so altered as to obviate the need for appeal to the courts in disputes between doctor and Insurance Committee. They have also been altered to meet the difficulties which are experienced by Insurance Committees in dealing with breaches of the agreement which are either too grave or not sufficiently grave for the remedies provided. Transference of insured persons is inadequate to meet the case of a doctor who leaves his practice without due notice or without providing a deputy. Even removal from the panel is fruitless in the case of one who has already withdrawn from the panel. To meet such cases of gross neglect provision has been made for recovery of damages under the agreement, and for empowering the committees to refund to the insured person out of the money recovered or retained the expenses reasonably and necessarily incurred in obtaining requisite treatment.

Distribution of Insurance Surplus in Glasgow.

An important decision has been arrived at by medical men in Glasgow regarding the allocation of the surplus money accruing under the Insurance Act in connexion with those persons who have not yet chosen their panel doctor. Last week a meeting of medical men serving on the panel was called by the Burgh Insurance Committee, when the point was fully discussed. It having been made clear that all the persons who have not yet chosen a doctor have to be distributed amongst the members of the panels, the points before the meeting were whether the patients should be divided equally amongst all the practitioners or whether they should be given to those doctors whose lists of patients do not exceed a certain number. The free expression of opinion by the meeting disclosed a general feeling that there was no desire to swell the large lists of certain doctors, with whom, of course, insured persons were at liberty to contract if so desired. Ultimately it was agreed to recommend that the patients should be allocated amongst those doctors on the panel whose lists do not contain more than 1500 names. It is estimated that there are about 50,000 persons in Glasgow who have not yet chosen their panel doctor. The recommendation of the meeting has yet to be considered by the Burgh Insurance Committee, and later by the Insurance Commissioners, but it is anticipated that the decision arrived at will terminate the question so far as it affects Glasgow.

Dundee Insurance Panels.

At a meeting of the Dundee Insurance Committee held on Nov. 26th the proposal that doctors, in addition to the present hours of attendance given in surgeries, from 6 to 8 P.M., should give attendance from 9 to 10 A.M. and from 2 to 3 in the afternoon, was defeated. The representative of the doctors said if those hours were required of them they could not possibly get through their work.

Diphtheria in Aberdeen.

For four months diphtheria has been prevalent in epidemic form in Aberdeen, and there is no appreciable falling off in the number of cases notified week by week. In all about 1100 cases have been notified from the beginning of August, while last month alone, according to school board reports, 332 children in the city suffered from diphtheria.

Dec. 2nd.

IRELAND.

The Certification Question.

THE committee of inquiry on alleged excessive sickness and malingering under the National Insurance Act has not yet completed its investigations, and as a consequence no arrangement as to certification has yet been made between the Insurance Commissioners and the medical profession. It is generally believed that the Commissioners are not satisfied with the working of the panel and that some other amended scheme will be brought forward. It is worth recalling that the medical profession never thought the panel system a good one, and only accepted it, in so far as it was accepted, because they were told that no other was possible. It is likely that for the future a pooling scheme will be adopted, somewhat on the lines of the pooling scheme for medical benefit at present at work in Manchester. This would have at least two important advantages—remuneration in proportion to work done and applicability to the entire profession. The disadvantages could be readily avoided by a little foresight.

Dublin University Biological Association.

The subject of discussion at the opening meeting of the University Biological Association this session was Chronic Intestinal Stasis, when the President, Mr. Seton Pringle, read a comprehensive and clear paper, and was followed by Mr. H. M. W. Gray, of Aberdeen, who received a hearty welcome to a Dublin medical platform. After the meeting the outgoing President, Dr. W. Geoffrey Harvey, entertained a large number of guests at a smoking concert.

Apothecaries' Hall.

Last Saturday, Nov. 29th, the Governor of the Apothecaries' Hall, Alderman McWalter, M.D., entertained a large company of guests to dinner at the Hotel Metropole. The Recorder of Dublin, Mr. T. L. O'Shaughnessy, K.C., in responding to the toast of "The City of Dublin," referred to the housing conditions of the working classes of Dublin, and declared that much of the crime which came before him in his official position was directly due thereto. Among the other visitors who spoke were the President of the Royal College of Surgeons, the President of University College, and the President of the Incorporated Law Society. A pleasant musical programme was provided.

Bangor Hospital for Infectious Diseases.

The Bangor urban council have decided to provide an infectious diseases hospital with 20 beds, with disinfector and ambulance, which, with the purchase of a site, is estimated to cost £4000; and they have also agreed to a financial scheme for the repayment of the loan, wages of caretaker, coal and lighting, services of medical officers, nurses, and upkeep (£460). As Bangor is increasing so much in valuation, it is thought the provision of such a necessary institution as an infectious diseases hospital will not occasion any increase in the rates. Bangor, situated on Belfast Lough, is a great summer health resort for north of Ireland people.

Death of Dr. D. Lynch, Ballyvourney.

The announcement of the death of Dr. Daniel Lynch, the dispensary medical officer of Ballyvourney, has been received with great regret in the district. He was a prominent figure in the life of the south of Ireland. His early life was highly adventurous. When quite a young man, on learning that Garibaldi had invaded the Pope's possessions, he proceeded to Italy, became a Papal Zouave, and fought through the whole campaign. Later, when war broke out between France and Prussia, he joined cause with the French and took part in many of the important engagements. After peace had been proclaimed he emigrated to America and lived the hard life of an exploring pioneer in the Rocky Mountains. He came back to Ireland, became a medical student, and when 40 years of age took the degrees of M.D. and M.Ch. at the Queen's University in the year 1881. Soon afterwards he was appointed dispensary medical officer of the Ballyvourney district, near Macroom, and readily attained for himself a reputation as a zealous and accomplished physician, a friend of the poor, and a devoted patriot. He spoke the Irish language fluently, and came to the practical aid of his poorer neighbours in Munster by starting a school for the manufacture of Irish lace. He continued to discharge his professional duties till the end of his life.

The late Mr. Thomas Wilson, Edgeworthstown.

The death occurred on Nov. 23rd of Mr. Thomas Wilson, M.R.C.S.Eng., L.R.C.P.Irel, J.P., of Edgeworthstown. He received his medical education at the Meath Hospital, and took his qualifications in 1866. For 45 years he had practised in county Longford, and the news of his death has been received with widespread regret. He was warmly esteemed by all creeds and parties as a doctor, magistrate, and a friend of the poor. The large attendance at Moatefarrell Cemetery on Nov. 25th bore ample testimony to his popularity.

Dec. 2nd.

PARIS.

The Sale of Habit-forming Drugs.

THE discussion at the Académie de Médecine on the sale of toxic and habit-forming drugs continues, and both the medical and pharmaceutical professions are worked up over it. It is only in virtue of a previous tolerant laxity that the pharmacist has been allowed to make up afresh a prescription that, as shown by the stamp of a former dispenser, has been previously dispensed. The proposal to forbid it by law in the case of dangerous and habit-forming drugs is meeting with fierce resistance at the hands of the chemists, who derive great profit from the practice, even in some cases greatly overcharging on account of the irregularity. Many speakers at the Academy gave instances of the dangers arising from the practice. Cases of self-treatment in sore-throat by means of a prescription borrowed from a friend have been found too late to be diphtheria. M. Reynier cited cases of unsuspected strychnine poisoning in prostatics. M. Hayem even went so far as to say that nowadays a large proportion of the cases of illness in town practice are due to drug addictions. He would even have the rule calling for a fresh prescription made to apply to the pharmaceutical preparations that are now sold without any prescription at all, many of which contain aconite, opium, digitalis, chloral, or urotropine, all drugs too dangerous to be left without surveillance in the hands of a patient. The abuse of urotropine, particularly by subjects of gout and renal diseases, has made great strides of late. The pharmacists' case was put before the Academy without any great force by the members of the pharmaceutical section, who contended that the new law would greatly upset the habits of the public and commercial methods, and would be inapplicable. The Academy, however, decided, with only five dissentient votes, that prescriptions calling for listed poisonous substances should not be renewed without a specific authorisation from the writer of the prescription.

Medical Fees Due by a Magistrate.

A curious case has recently been decided in the law courts. A magistrate had been treated by a prolonged course of massage for the results of an injury. His medical attendant claimed a fee of 100 francs; the magistrate valued his services at 65 francs. This sum the medical man declined to accept, and brought an action, naturally in the court in another district, as the defendant could not be judge in his own case. But the magistrate in the other district decided in favour of his colleague, and to punish the doctor for his audacity ordered him to pay the entire costs, which amounted to 100 francs. The text of the judgment, which has been published in the press, gives the most extraordinary grounds for the decision. It alleges that the justices of the peace are very ill paid (in Paris they receive 10,000 francs per annum), that the quarter in which the patient dwelt was a popular suburb where the fees of medical men ought to be extremely moderate, and that the official standing of the medical man, who is a *médecin en chef* of a hospital, is of no account, because, it is stated, these titles are now obtained more by influence than by the strictness of the competition or by personal merit. This monument of jurisprudence cannot be upset, for in cases involving less than 500 francs the decisions of the justice of the peace do not admit of appeal.

The Bacillus of Koch in Erythema Nodosum.

The relation between erythema nodosum and tuberculosis has long been suspected. Professor Landouzy has for some time asserted such a relationship, and the view is now generally accepted. But hitherto the belief has been dependent merely on a clinical basis without any anatomical substratum. In a case recently published by M. Landouzy he has succeeded in demonstrating in a fragment of an erythematous patch excised during life the presence of Koch's bacillus inside the blood-vessels. The search for the bacillus in the blood, it is true, both by direct examination and by cultures, proved fruitless; but the inoculation of guinea-pigs gave positive results. This result definitely establishes Professor Landouzy's view.

Dec. 1st.

VIENNA.

Radium in Cancer of the Upper Respiratory Tract.

AT a recent meeting of the Vienna Gesellschaft der Aerzte Dr. Marschik showed five cases of cancer which he had treated—and with apparent success—by radium. The first patient was a man, aged 69 years, suffering from cancer of the maxillary antrum of such an extent that operation was out of the question. The man received 2600 milligramme hours of radium application. Another man, 59 years old, with cancer of the left pyriform recess, had any affected glands first removed from his neck, and then he was treated with 1700 milligramme hours. He now speaks and swallows normally. A man, aged 46 years, suffering from "Trotter's" tumour (a tumour causing deafness, paralysis of the levator muscles of the palate, and violent pains because of its situation in the epipharynx near the tubes and involving the trigeminus nerve), was treated with 2000 milligramme hours. He suffered a recurrence, which promptly disappeared after a second course of 1500 milligramme hours. Another patient, a man aged 70 years, had a cancer of the left tonsil involving the left region of the cheek and the base of the tongue. He had 1350 milligramme hours. As there were no glands manifestly attacked none were removed. The last patient was a woman, aged 74 years, suffering from a tumour of the soft palate with partial necrosis. Here the diagnosis was uncertain until microscopic examination proved the tumour to be a round-cell sarcoma. She received 1200 milligramme hours, and recovered completely after three weeks. All other cases had been operated on, except the first mentioned, before the radium was applied, as it is the principle to remove as much as possible of the neoplasm. The cases showed that moderate doses of radium were sufficient to obtain satisfactory results. It is now absolutely proved that cancer of the upper respiratory tract can be cured, at least temporarily. Microscopic examinations were, of course, made in every case, and the patients were kept under observation in the clinic during and after treatment.

Some Problems of Measles.

In a paper recently read by Dr. Friedjung before the Society for Internal Diseases in Vienna he discussed three important questions connected with measles—namely, (1) immunity against measles; (2) the period of incubation; and (3) recurrence or reinfection. He said that he had seen only three cases of immunity against infection which could be considered as absolute, but there were certainly many persons temporarily immune, perhaps owing to the quantity of virus being too small. The period of incubation was regarded as being between 13 and 14 days, but cases were known in which 21 days elapsed between infection and the appearance of the exanthem. This point needed much observation before it could be regarded as settled. There was a general belief that measles might attack some persons repeatedly, but the best observers denied this, and, in fact, it was possible to show that the reported cases were erroneous. In order to be free from doubt the following requirements should be fulfilled before a case could be considered as a "repeated attack": (1) Both attacks must be in due connexion with an undoubted outbreak of measles, after the typical incubation period of 14 days, or they must be followed, after 14 days, by an outbreak of measles in the persons of their surroudings; (2) both attacks must show the typical Koplik spots before the outbreak of the exanthem on a particular day; (3) both attacks must show the typical affection of the conjunctivæ and the upper respiratory organs; (4) atypical behaviour of the infection tended to disprove the reliability of the observations—for instance, if a case remained solitary, although in contact with susceptible persons, or if any typical symptoms (Koplik's sign, pyrexia) were absent; and (5) it was desirable that several medical men should see the case. Some observations dealing with a recurrence of measles in the same person after a short time, such as from three to five weeks, seemed to be well founded, and in the discussion following the reading of the paper several such cases were mentioned in which there was no doubt possible.

Prophylactic Measures against Occupational Skin Diseases.

Owing to the enormous increase of skin diseases produced by the handling of, or working with, substances irritating for the skin, the Krankenkassen of Austria have been of late forced to disburse large sums as sick pay to their members on this account. The skin specialists of the two most important of these sick clubs, therefore, brought the matter before the Vienna Gesellschaft der Aerzte, and after some discussion it was decided to institute an inquiry into the existing conditions. The inquiry will be conducted by the Dermatological Society of Vienna, and the Ministry of the Interior will be represented by the officials from the factory inspectors' department. The prophylactic measures will have to aim at lessening the direct danger caused by the work, and the cost of them would no doubt be less than the present sick pay amounts to. Occupational diseases have only lately received much attention, and as the whole subject is an important one the inquiry is looked forward to with considerable interest.

Schools for Nurses in Austria.

The defects of our system of training nurses have been made manifest during the experiences of the late war, and recognising the requirements of modern times the Government at once set to work to correct this serious shortcoming. The outcome was the establishment of schools for training qualified nurses, such having been opened now in Vienna and in four other important towns of the empire. The Red Cross Society of Austria has also made arrangements for a training school for nurses, so that within a couple of months an ample number of important institutions will be in working order. Nursing has hitherto been regarded here as a somewhat undignified occupation, and in order to induce a better class of women to offer their services the entrance requirements will be raised. The nuns, who in many hospitals serve at present as nurses, will be gradually replaced by trained nurses.

Nov. 28th.

Obituary.

EDWIN KLEBS,

LATE PROFESSOR OF PATHOLOGY AT WÜRZBURG, PRAGUE, AND ZÜRICH.

WITH the death of Edwin Klebs, the veteran pathologist and bacteriologist (at his home in Bern, Oct. 23rd), medicine loses one of the last representatives of a great historical period and a persistent early advocate of the theory of contagium vivum.

A native of Königsberg and a cousin of von Leyden, Klebs followed Virchow's lectures at Würzburg and became his assistant at Berlin in 1861. Called first to a professorship at Bern (1866), his academic career was that of a peripatetic. He held in succession the chairs of Pathology at Würzburg (1872), Prague (1873), Zurich (1882), and during his period of retirement resided variously at Carlsruhe, Chicago, Hanover, Berlin, and Lausanne. Klebs had a restless, changeable activity, passing from one place to another, an ancestral Slavic trait which had much to do with the character of his work and the effect it produced upon his contemporaries. His "Handbook on Pathological Anatomy" (1869–76) and his larger "Allgemeine Pathologie" (1887–89) are highly esteemed by the masters of this science as solid, thorough works of enduring value, containing many original facts which have become part and parcel of current knowledge. In his career he had many able pupils, particularly E. Ziegler, Zahn, Eppinger, Soyka, Fischl, von Jaksch, Lubarsch, also several Englishmen, Americans, Italians, Slavs, and Japanese. He will be best remembered in the future as a path-breaker and a precursor.

Klebs's name is permanently associated with the discovery of the diphtheria (Klebs-Löffler) bacillus, which he was the first to see and to recognise as the cause of the disease (1883), while Löffler tried the organism out by Koch's postulates and dissociated it from the bovine and avian varieties (1884). Not only did he see the typhoid bacillus before Eberth (1881), but he antedated Koch by seven years in the bacteriological investigation of the traumatic infections (1871), and also made solid cultures before him. His work undoubtedly set Koch in the right direction, as the latter has sometimes acknowledged. If anyone will examine Klebs's experimental study of the contagion of syphilis (1878), he will see most interesting coloured plates showing experimental inoculations of monkeys, 15 years before Metchnikoff's, and figurations of parasites which he firmly believed to be the cause of lues. Klebs was the first to investigate the bacteriology of gunshot wounds (Franco-Prussian war, 1870–71), made the initial experiment in producing endocarditis by mechanical means combined with general infection (1876), first produced tuberculous lesions in animals by feeding them with "Perlsucht" milk, independent of Gerlach's experiments (1873), and in 1900 he attempted to treat tuberculosis with the bacilli of cold-blooded animals, the species selected being the slow-worm bacillus (Blindschleichenbacillus).

It may be asked why the work of so brilliant an investigator is so little known in detail, except among the specialists in his field of activity. The answer is that, except in pathological morphology, he completed no phase of it, leaving that accomplishment for others, to Koch's school in particular. That Klebs has not always followed up his victories to their ultimate consequences finds explanation in certain peculiar circumstances of his time and principally in his personality. His restless temperament made him pay the usual penalties of the thinker who is in advance of his time. This is strikingly shown in his monograph on gigantism (1884), which, but for a single fact, would have long been known as an epoch-marking document in the history of acromegaly and the pituitary body. Only a veteran pathologist of the first rank could have drawn up this protocol. As it is, Pierre Marie's essay, although published two years later and not nearly so complete as that of Klebs, is regarded as the classical monograph on acromegaly. Similarly in his investigations of malarial fever (with Tommasi-Crudeli, 1879), Klebs wrongly inferred the "bacillus malariæ," yet his work was translated and published by the Sydenham Society and for an excellent reason —namely, that it was clearly in the right direction. Indeed, Klebs will always be recognised in medical history as having done most to get pathologists away from the solidist views of Virchow by emphasising the fact that post-mortem findings, after all, are only end results, and that the true causation of infectious diseases is to be sought in parasitic agents coming from the outside world. In bringing the weak-kneed over to this view his propagandism was of the broadest and most impersonal character. His two discourses on the trend of pathology, published in 1878 and 1882, are definitely contra-Virchow, yet nothing could be more courteous and reasonable than the attitude he takes in joining issue with his old teacher and friend. It is true that he sometimes assigned a rôle to micro-organisms which is not yet justified—for instance, in his monograph on endemic cretinism in Austria (1877), but the general effect of his work was strongly to reinforce the position taken by Pasteur and his followers. It is said that even to the last Klebs lived with his gaze fastened on the future, particularly in regard to the problem of tuberculosis which occupied his declining years; yet he had a fine historical perspective, and his little discourse on medical history, delivered at Bern in 1868, is a survey of the subject which for definite assignment of values and attractive presentation might be compared with the charming primer of Stopford Brooke on English literature. In the preface Klebs quotes Schiller's distich to the effect that where impotence and incompetence sit with folded hands and consider the rules of the game the strong man works wonders by simply "starting something"—

> So war's immer, mein Freund, und so wird's bleiben :
> die Ohnmacht
> Hat die Regel für sich, aber die Kraft den Erfolg.

This is the keynote of his character. A broad-browed, broad-minded savant of the Prussian type, it was part of his temperament to fling himself into many an imminent breach and to break many a pathway, leaving it to others to follow up and complete what he had started. As a *Bahnbrecher* he will always be remembered, not only for his own discoveries, but in connexion with those of other men whom he started in the right direction.

Wer für die Besten seiner Zeit gelebt
Der hat gelebt für alle Zeiten.

FIELDING H. GARRISON.

CLEMENT GODSON, M.D. ABERD., M.R.C.P. LOND., M.R.C.S. ENG.,

CONSULTING PHYSICIAN TO THE CITY OF LONDON LYING-IN HOSPITAL.

THE regretted death of Dr. Clement Godson took place, as announced in our last issue, in London on Nov. 26th.

He was born on June 4th, 1845, and was the eldest surviving son of the late Mr. Charles Godson, F.R.C.S. Having received his preliminary education at King's College School, he afterwards entered at St. Bartholomew's Hospital, and later continued his medical studies at Aberdeen University. In 1868 he qualified by taking the Membership of the Royal College of Surgeons of England, and in 1872 graduated M.B. C.M. at Aberdeen, proceeding to the M.D. degree two years later, when he also obtained the Membership of the Royal College of Physicians of London. Shortly after receiving his degree in medicine and surgery, Dr. Godson was elected first assistant physician-accoucheur at St. Bartholomew's Hospital, a newly created office, and this position he occupied for some 16 years, resigning it only on the death of his senior colleague, Dr. Matthews Duncan. Among other important positions which he had filled were those of physician to the City of London Lying-in Hospital and examiner in obstetrics at Aberdeen and Durham Universities. He was also president of the British Gynæcological Society, Fellow and vice-president of the Obstetric and Gynæcological Section of the Royal Society of Medicine, Fellow of the Medical Society of London, consulting physician to St. Peter's Home, Kilburn, physician to the Samaritan Free Hospital for Women and Children, and consulting physician-accoucheur to St. George's and St. James's Dispensary. In 1896 he was appointed honorary president of the Congress of Obstetrics at Geneva, and was for many years a corresponding member of the Italian Obstetrical and Gynæcological Society. Dr. Godson was actively interested in the work of the League of Mercy, of which league he was a vice-president. As an ardent supporter of the Volunteer movement and as a member of that force he received the Volunteer Decoration, and on the inauguration of the Territorial Force he was appointed Colonel of the Royal Army Medical Corps (T.F.), and became officer commanding the 2nd London (City of London) General Hospital. To the literature of his profession Dr. Godson contributed papers on medicine, surgery, and obstetrics, and was the author of the article, among others from his pen, upon puerperal diseases in "Quain's Dictionary of Medicine." He was a prominent Freemason.

Dr. Godson was an extremely able practitioner in his special line, and enjoyed the esteem of a large circle of colleagues, friends, and patients. By his marriage with Alice, the se[illegible]aughter of the late Rev. Robert Briscoe [illegible] case, and [illegible]or of Bognor, he had [illegible]uer observation in the c

after treatment.

Correspondence.

"Audi alteram partem."

THE UNIVERSITY OF LONDON.

To the Editor of THE LANCET.

SIR,—The Faculty of Medicine of the University of London this afternoon passed a number of resolutions endorsing the action of their Board of the Faculty. The question of the constitution of the Faculty which will result from the recommendations of the recent Royal Commission did not come under consideration, and we are promised another report from the Board on this subject before Christmas. As I believe this question to be of primary importance to all the schools of medicine as well as to the University, and as I am convinced the members of the present Faculty of Medicine are living in a fool's paradise if they think they can blissfully ignore the Commission and all its works, I shall be grateful if you will allow me to put some matters before my fellow members of the Faculty which I think they may not have thought out fully. The references *re* pages and sections are to the Final Report of the Royal Commission on University Education in London (Bluebook C. d. 6717, price 2*s*.).

The term "schools" means throughout those teaching bodies which elect to qualify as schools of the University, but do not or cannot elect to become constituent colleges. The latter term is restricted to the use made of it by the Commissioners—namely, to indicate those teaching bodies which elect "to transfer all educational and financial control of their affairs to the University" (Section 119). In medicine there "cannot be more than three such colleges," but the full scheme will come into force when one such college has been established (Section 298). The list of schools contemplated in the Faculty of Medicine is given on p. 204, and includes all the present teaching schools, but these will have to appoint University representatives chosen by the Academic Council on their governing bodies, and generally submit to a far larger degree of University control than any to which they have been hitherto accustomed. The measure of control contemplated by the Report can be gauged from the following statements:—

> "The University must be satisfied that there is no adequate and suitable provision of university instruction already existing in the locality concerned for the particular class of students whom it is proposed to teach, and it must have the power to require the coördination of the work of the centre with the work existing elsewhere as a condition of its continued status as a school." (p. 203.)

Thus it is evident that the University may bring pressure to bear upon certain of the present schools to forego some of their courses of study and thus seriously interfere with their internal government.

> "In the case of a hospital medical school ...... the governing body of the hospital will appoint a committee of its own members, with the addition of University representatives, to conduct the business of the school, and will always invite and receive a report from that committee before deciding any matter affecting that department of the institution." (p. 203.)

> "Even in the case of teachers not appointed by the University, and for whom no University title is desired, the Senate will have some voice in the appointment—e.g., by representation on the appointing committee." (p. 203.)

The Faculty of Medicine as it at present exists is to be abolished, and no other faculty will be constituted until the establishment of the constituent college or colleges. Until the new faculty is so constituted the new "Board of Studies in Medicine" will form the unit of government of the schools, and this board will report directly to the Senate (Section 385). When the new faculty comes into existence the Board will not have the right of direct access to the Senate, but will have to report to the Faculty.

The constitution which the report proposes for the schools, not being constituent colleges, is as follows. The Board of Studies in Medicine shall form a committee of itself, subject to the approval of the Senate, to prepare curricula and syllabuses, &c. (Section 385). This committee shall report to the parent Board of Studies; the Board of Studies shall in turn report to the Faculty of Medicine, which when constituted shall consist of the "University Professors and other Teachers of standing in the University Medical Colleges which would be Constituent Colleges." "Some eminent members of the profession who were not teachers in these colleges" might be coöpted, but this right "should be sparingly exercised," and need not be exercised at all (Section 305).

The powers of the Faculty thus constituted are detailed on page 53. It shall have the power generally "to determine the conditions for the award of degrees, diplomas, and the course of study to be pursued by students of the University within the Faculty." The Faculty will report to the Academic Council, which will consist of the deans of the faculties and eight other members of the faculties, elected in common session. The Vice-Chancellor is *ex-officio* chairman; with this exception all the members will, we may be sure, be members of the constituent colleges. The Academic Council will have large executive powers in educational matters, including the recognition and visitation and university control of schools.

The Academic Council reports to the Senate, on which it has two representatives out of 15 members. The Senate transmits its instructions to the schools through a special committee to be appointed by the Senate (Section 400). This committee is "to supervise curricula and general examinations in the schools," but "it is not to be constituted so as to represent institutions or particular classes of students." This committee, which I shall call for short the "Scholastic Council," though it is not given any distinguishing name in the report, is comparable to the Academic Council in that in those branches of study in which there are no faculties this committee receives reports which if there were a faculty would be transmitted to the Academic Council. The Scholastic Council might very well be strengthened so as to perform for the schools the functions which the Academic Council peforms for the constituent colleges. The Scholastic Council communicates its findings to the Board of Studies which I have called the "unit of government of the Schools." (It must be carefully borne in mind that the meaning given by the Report to the term "Board of Studies" differs from the meaning which that term has had in the past.)

The constitution of all the bodies concerned makes the procedure very inconvenient and unfair for the schools, as compared with the procedure which is to be adopted for the constituent colleges.

The Board of Studies (Section 385) is to consist of the "principal teachers in the schools of the University"; it is therefore entirely comparable to the constitution of the new faculty, which will consist of the professors, readers, and some coöpted teachers of the constituent colleges; but whereas the Faculty, consisting of teachers at the constituent colleges, reports direct to the Academic Council, also consisting of teachers at the same colleges, the Board of Studies reports direct to the Faculty—*that is, to a body of persons with a direct financial and personal interest in hastening the transfer of all students for Oxford, Cambridge, or London degrees from the schools to the constituent colleges.*

As the statement which I have italicised has been questioned perhaps I may be allowed to substantiate it. It must be remembered that the Commissioners allowed the professor a limited amount of private practice, but they did not mention the means by which limitation could be enforced. In many branches of medicine it is obviously impossible to fix the hours during which the professor may respond to the calls of his patients. A man with appendicitis, a woman in labour, a child with a doubtful diphtheritic throat cannot await the convenience of the surgeon, the obstetrician, and the physician respectively. Limitation could in fact not be enforced, and this consideration influenced the Board of the Faculty in the unanimous vote which they recorded that the professor should not be allowed any practice at all. But the Commission's recommendation holds the field, and while it does so it is obvious that it is to the professor's pecuniary interest to attract as many students as possible to his classes. The prestige of the college and of its teachers will to a large extent depend on the number of students which attend it.

As the Dean of the Faculty of Medicine very pertinently observed, the Commissioners make a division where no division existed before. University students studying at the colleges are to be sharply differentiated from university students studying at the schools; they are to be branded as separate even after they have graduated; for graduates are required to add to their degree the name of the college or school at which they studied. The cumbrous and absurd titles which will result from this regulation do not seem to have touched any sense of humour in the Commissioners. We may see, on death certificates and other documents, signatures such as "John Smith, M.D. Lond. University College Hospital Medical School"; or in the case of a woman graduate a still more clumsy appellation—e.g., "Mary Jones, M.D. Lond. The London (R.F.H.) School of Medicine for Women."

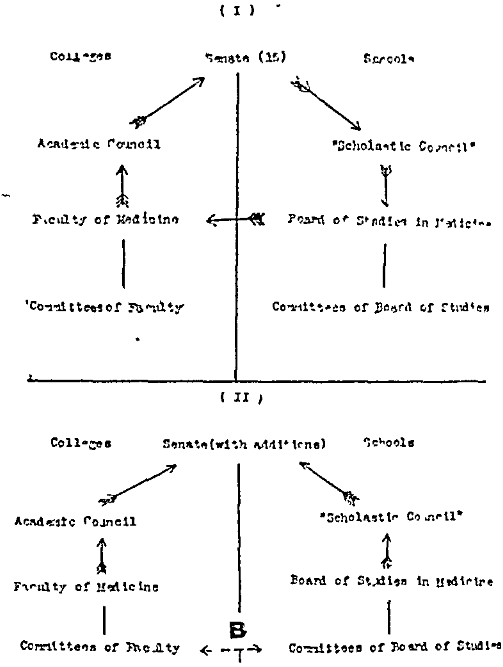
But the dualism which the Commissioners introduce is not even a fair dualism, for the dice are heavily loaded in favour of the constituent college and against the school. I have shown how the constitution favours the college. But another most important privilege is reserved for teachers in the colleges and is not accorded to teachers in the schools, in that the teachers at the college examine their own students but this is not the case with teachers at the schools. For example, if three colleges, A, B, C, are constituted, the examinations are differentiated at A, B, and C respectively. But if X, Y, Z are schools of the university the same examination must be taken by each of these individual schools—that is, the teachers will not examine their own students. Moreover, the examination held at the schools will be controlled by the Faculty and the Academic Council—i.e., by the teachers at the constituent colleges.

The President of the Board of Education has clearly indicated that when a Bill has been submitted by the Departmental Committee at present sitting, the Bill will be made a Government measure, and will presumably be backed by the present Coalition majority. It may then be asked: "What is the use of kicking against the pricks?" and it may be questioned whether the present Faculty of Medicine can do anything to save the situation. I believe that it can, but not without combination with other faculties and not without exerting itself to the utmost.

There is a proposal now being discussed in other faculties, and notably in the Faculties of Arts and Science, by which, if the Report of the Commission is pushed, certain modifications may be obtained which will remedy to some degree the more glaring injustices of the changes recommended by the Report. My chief purpose in writing this letter is to lay before your readers the modification suggested. To put it as briefly as possible, the present Medical Faculty is urged to demand that the privilege of reporting direct to the Senate through the special committee to be appointed by that body, which I have called the "Scholastic Council," shall be retained permanently, and shall not be given up, as the Report suggests, when the new Faculty of Medicine comes to be constituted.

The effect of this modification will best be understood by reference to the diagram. Scheme I. represents the proposal of the Commissioners, which will come into operation as soon as a constituent college, and thereby the new Faculty, comes into being. By this scheme any report from the Board of Studies must be submitted to the Faculty, and this report follows the course indicated by the arrows in the diagram until the instructions of the Senate come back to the Board of Studies *viâ* the "Scholastic Council." As the "control of the teaching and examining work of the University should as far as possible rest with the faculties" and "only the control of finance and administration business rest with the Senate" it is obvious that in most cases affecting the schools the Senate will do little more than transmit the judgments passed by the Faculty and Academic Council. It is surely unjust to require that "the principal teachers in the Schools" shall have to submit in all their arrangements for teaching and examining their own students to revision by a body of competing teachers of no higher status than themselves, but who happen to be teachers in a constituent college. The scheme marked II. represents on the side marked schools the procedure which the Commission recommends as provisional until the new Faculty is established. By this scheme the schools have direct access to the Senate *viâ* the "Scholastic Council," and the proposal to which I am inviting the attention of the present Faculty is that when the constituent college and the new Faculty make their appearance the affairs of the constituent college shall be managed by the Faculty and Academic Council (subject to the final authority of the Senate), and the affairs of the schools shall be managed by the Board of Studies and the Scholastic Council, which should be strengthened by representation from the schools in the same measure as the colleges are represented on the Academic Council. The Scholastic Council will be to the same degree under the authority of the Senate, and this Council should have the same representation on the Senate as the Report concedes to the Academic Council. The subordination of the schools to the colleges which is contemplated in the Report thus disappears. If it is thought advisable to have contact between the schools and colleges, this might be arranged by the common session of the committees of the Faculty and of the Board of Studies (indicated in the diagram by the double pointed arrow B). This would mean an interchange of views on an equal basis, and the common outlook thus obtained would usefully leaven both the parent bodies to which these committees report. If it be objected—and the objection has been made—that this is to separate the colleges and the schools into watertight compartments, the answer is that the Commission has so decreed it—"Tu l'as voulu, Georges Dandin"—and it is useless to attempt to override their Report. All that can be done, if, indeed, that little is possible, is to correct the most obvious inequalities; and I repeat that it is only by concerted action by as many faculties as may be practicable that even this may be achieved.

DIAGRAMS.



I am, Sir, yours faithfully,

E. GRAHAM LITTLE,

Member of the Senate of the University of London;
Member of the Board of the Faculty of Medicine.

Wimpole-street, W., Dec 1st, 1913.

THE PATHOLOGY OF YELLOW FEVER.

To the Editor of THE LANCET.

SIR,—I would like to bring to your notice the results of some investigations by Dr. J. W. Scott Macfie and myself at the Medical Research Institute, Lagos, during a small outbreak of yellow fever that commenced in May of this year. We had the opportunity of examining very many blood films from infected patients and of carrying out experimental inoculation of animals.

In the course of our observations we discovered in the red cells small parasitic bodies which proved to be identical with the paraplasma flavigenum described by Seidelin in Vol I. of the "Yellow Fever Bureau Bulletin." These proved, on further experience, to be fairly numerous in the blood; moreover, we found them in practically every definite case of yellow fever that we examined, and we are confident that they are of very great service in the correct diagnosis of the disease The paraplasma bodies were found to be present for several days—in one case for 12—and we succeeded in infecting guinea pigs as late as the eighth day, facts that would tend to invalidate the usually ascribed period of infectivity of three days

In our animal experiments we were most successful with guinea pigs, though we also succeeded in infecting dogs and white rats—the latter specially imported from England—and we also infected guinea pigs on subinoculation As a result of inoculation the animals showed *paraplasma flavigenum in the blood*, and *in the case of* most of the guinea pigs a very definite rise of temperature of 1 5° to 2° or more, lasting for several days The white rats showed a modified reaction of shorter duration the dogs no febrile rise whatever, though most of the dogs showed paraplasma in their blood We also examined several stray dogs brought to us, and in two of them we found very similar bodies—a point that may prove to be of importance in the spread of the disease The blood of several fowls proved to be entirely negative

These results, as tending to a more rapid and more certain diagnosis increase in importance when one considers the very fatal nature of the disease when attacking Europeans and the great natural difficulties met with *in dealing effectively* with an outbreak in a country such as Southern Nigeria I am, Sir yours faithfully,

J E L JOHNSTON,

Bude Cornwall, Nov 30th 1913 West African Medical Staff

THE GOVERNMENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

To the Editor of THE LANCET

SIR —As honorary secretary of the Society of Members of the Royal College of Surgeons of England, which society was responsible for preparing and issuing the letter to which Mr Brudenell Carter refers in your issue of Nov 22nd, I feel sure that, in view of your journal s motto, ' Audi alteram partem, you will allow me to answer his would be searching criticism

The letter accurately described the condition of Mr Carter as *a Member* and not as a Fellow, to him as a Member the letter was sent Mr Carter is probably unaware that by Clause 6 of the charter of 1843, which filched from the Members some of their ancient rights every Fellow must also be a Member of the College It is only inasmuch as he is a Member that Mr Carter has any legal interest in the property of the College, which (by ancient charter) is vested in the Members only

We must as Sir Rickman Godlee says in THE LANCET of Nov 22nd (p 1444, col 2, line 8), ' emancipate ourselves from the superstitions and traditions of our elders He also says on p 1447 that the examinations the would be M R C S has to pass are recognised as being "models of fairness and thoroughness, and are specially distinguished by their practical character,' and might be the pattern for State examinations in a single portal system

The last statement of Mr Carter s letter is not only insolent but untrue, as we are all aware that lack of money on the part of a student or his parents to pay for the extended time of study required has often been the only impediment *to a* youth of ability taking his Fellowship shortly after his becoming a Member of the College

In the recent congratulatory address from the English to the American College of Surgeons it is stated "We cannot forget the important advances in the science and art of surgery achieved by many distinguished surgeons in the continent of America during the past and these advances have not been achieved by Fellows of the Royal College of Surgeons of England

My society does not propose, as your correspondent alleges, to transfer the government of the College from the Fellows to the Members, but it only asks for a small number of persons elected by *the Members to be joined to the present Council* of 24 Fellows, the Members might elect as their direct representatives other Fellows who are worthy of their confidence

The charter of 1800 which constituted the College of Surgeons in its original form, stated that 'the establishment of a College of Surgeons will be expedient for the due promotion and encouragement of the study and practice of the art and science of surgery —i e ,as a whole and not specially for the encouragement of major operations at the hands of Fellows Indeed, it did not sanction the creation of Fellows at all, but it was left to the charter of 1843 to permit the wholesale translation of 542 Members into Fellows without any qualifying examinations whatever

The *objects of the Society of Members are*—

(A) To arouse and maintain among Members of the R C S Eng a permanent interest in their College by obtaining for them a share in its management

(B) To promote an amendment of the charters of the College which shall permit the Members to take part in the election of the governing body

(C) While seeking primarily to further the interests of Members to coöperate with the Fellows in obtaining such reforms as are possible under the present charters

(D) Generally to promote the true welfare of the corporation by bringing the Council, Fellows and Members into harmonious action

All sensible persons will admit that these principles contain nothing the acceptance of which is derogatory to the dignity of the College or inimical to the interests of the Fellows Therefore many Fellows subscribe annually *to the funds of* the society, and at the annual meeting in Lincoln s Inn Fields progressive and distinguished Fellows speak and vote in favour of the direct representation of Members on the Council In or about 1903, at a meeting exclusively composed of Fellows this resolution was passed by an overwhelming majority "That it is desirable to give Members a di[illegible] the Council [illegible] Mr Carter of the admoni[illegible] tic[illegible] Sir Thomas Vicary, first Master of the Barber Surgeons Company "Despise no other chirurgeon without a great cause for it is meete that one chirurgeon should love another, as Christ loveth us all

I am, Sir, yours faithfully

SIDNEY C LAWRENCE

22 Latymer road Lower Edmonton N Dec 1st 1913

To the Editor of THE LANCET

SIR —Mr R Brudenell Carter s suggestion in THE LANCET of Nov 22nd that the claim of Members to a voice in the governance of their own College, of which they are by law an actual part of the body corporate, would if granted be highly prejudicial, shows I submit, a peculiar trend of mind inconsistent with modern thought. His implication that Members are not interested in the advancement of higher surgery is groundless.

As regards the financial aspect of the question, the hard fact remains that the dignity and the existence of the College depend upon the contributions of the Members. The mere possession of a surgical diploma with honours does not confer administrative and executive ability.

It is incomprehensible that a charter to-day would be granted by the King in Council excluding the Members from the governance of their own College (cf. the charters to the new universities). Self-government is the modern doctrine which in the domain of politics has been won by a series of constitutional conflicts; had it not been so we should still be living in the Middle Ages.

I submit that healthy criticism and coöperation of Members would lead to the advancement and well-being of the College, as the coöperation and criticism of the Commons in the great council of the realm has led to good government in this country.

Mr. Carter's letter unknowingly supports the claims of Members, for none can read it without being impressed with its prejudice, which, if typical of the mental attitude of the Council and Fellows, requires to be diluted with more modern and up-to-date views.

I am, Sir, yours faithfully,
FREDERICK W. COLLINGWOOD.
Primrose Club, Nov. 28th, 1913.

THE NATIONAL INSURANCE ACT: THE SIGNING OF CERTIFICATES.

To the Editor of THE LANCET.

SIR,—On Nov. 27th a case of considerable importance was tried in the City of London Court. It was essentially a case of panel doctor *versus* Friendly Society, and I, the cause thereof, would like to lay the facts before your readers. For years I have been in the habit of signing certificates, prescriptions, &c., by means of a facsimile rubber stamp, and such a practice became much more convenient with the advent of the Insurance Act, where prescription forms have to be signed in duplicate, and large numbers of certificates have to be signed every week. I may add that signing one's name in this manner is a perfectly proper and legal proceeding, and any document whatsoever—death certificates, wills, contracts, and affidavits—may be so signed. No exception was ever taken to my facsimile stamp by any society or person until a month or so ago, when the Prudential Society, after accepting several certificates attesting the sickness of one of their members, a patient of mine, suddenly, without any official notification, refused to accept any more of them, their agent giving as a reason that the certificate was not properly signed.

I represented to the society that my stamped certificate was valid and must be accepted by them. I even called on the secretary and informed him that the signature was mine. Being a barrister, he favoured me with a good deal of legal information, which has subsequently been proved to be incorrect. Week by week, meanwhile, Mrs. Kipps presented her certificates and the society continued to refuse payment. They made representations to the Insurance Commissioners, with the result that a letter was sent to me requesting me to discontinue using my rubber stamp, the writer signing the letter with one himself!

Mrs. Kipps, through a solicitor, now issued a writ against the Prudential Society, and the case came before Judge Rentoul, K.C. The solicitor to the society urged that the court had no jurisdiction in that the rules of the society provided for settlement of all disputes by arbitration. Mr. Knight, barrister, pointed out that by the society's rules the arbitrator was to be appointed *by the society*, and that a sweep might easily be the person asked to adjudicate. The Prudential solicitor admitted this, but added the proviso that the sweep should be honest.

The judge held that the court had jurisdiction, and found for the plaintiff, with costs on the B scale. The society's solicitor thereupon asked leave to appeal and the judge granted it, adding a warning to him to look up his law carefully before advising his society to spend large sums of money in the Appeal Court.

A stamped signature, therefore, has again been held to be valid, and all persons concerned are bound to accept it. One of the Prudential objections was that they had no means of knowing whether it was the doctor's signature or not, but the judge pointed out that in any case they could not possibly know whether the written signature was genuine or not. He added: "I think, of the two, the rubber stamp is safer, for that can be kept under lock and key, whereas anyone can *write* the doctor's name."

In conclusion, I may point out that the society never once refused a stamped certificate stating that a member was able to return to work. To busy practitioners the convenience of using a stamp for signatures is very great, they are legal and valid, and those doctors who have been intimidated with regard to their use, may take heart of grace and sign anything they like with a facsimile stamp and no one may say them nay.

I am, Sir, yours faithfully,
London, S.E., Nov. 30th, 1913. C. H. PRING.

⁂ A reference to this case will be found in another column (p. 1668).—ED. L.

THE MOUNT VERNON HOSPITAL.

To the Editor of THE LANCET.

SIR,—In reply to the letter of Mr. Charles Johnston, chairman of the committee of management of the Mount Vernon Hospital, in your issue of Nov. 22nd, we wish to refer mainly to the causes of the resignation of the whole of the consulting staff and the large majority of the acting staff, a statement of which appeared in your issue of July 12th, 1913.

At the expense of chronological order, but to clear the ground, we notice that with regard to one of the causes of the resignation there is no essential difference between us and the chairman. The fact is that after what must seem to most an arbitrary action on the part of the committee of management, the chairman of the committee refused to meet the medical board in conference. Whether the proposed action of the committee of management with regard to the Northwood appointments was justifiable or not, it was pointed out in an unmistakable manner that the medical board disagreed with it, and that it might be fraught with serious consequences to the hospital. In view of this we must maintain that the refusal on the part of the committee of management *to discuss* with their honorary medical staff so important a matter as the Northwood appointments, not only justified, but, even alone, practically necessitated the resignation of the staff.

We now turn to the matter which, as we were legally advised, could only be described as the summary dismissal of two members of the medical staff from their appointments at Northwood. At the risk of unduly encroaching on your space, we venture to give as shortly as possible an account of the origin and development of this procedure. Towards the end of 1909 it was decided by the medical board, consisting of all the members of the honorary medical staff, that all the honorary visiting physicians to the hospital should have the rank of full physician and should be given charge of beds at either the Hampstead or Northwood Institution. The two junior physicians, Dr. F. W. Price and Dr. A. J. Whiting, the only members of the staff who were then without beds at either institution, were allotted 20 beds each at Northwood, the remaining beds there (60 in number) being under the care of two of the senior physicians—viz., Dr. J. E. Squire and Dr. G. F. Johnston. This arrangement was referred by the medical board to the committee of management for their approval, which they gave and confirmed subsequently in letters to Dr. Price and Dr. Whiting, dated Nov. 17th, 1909. In these letters the above physicians were informed that they were elected visiting physicians to the hospital at Northwood for a period of 12 months. Although these appointments were originally intended to be renewed from year to year, formal renewal of them was allowed to lapse by the committee of management, so that as a fact no further communication was received, either by the medical board or the physicians in question, from the committee of management concerning these appointments until the letters hereinafter to be referred to were sent to Dr. Price and Dr. Whiting on April 17th, 1913.

From about the middle of 1911, during the whole of 1912, and during the earlier months of 1913 considerable difference of opinion occurred between the committee of management and the medical board concerning the management of the hospital, and especially with regard to the proposal to sell the hospital at Hampstead and devote the funds to the maintenance of the sanatorium at Northwood. In this controversy the whole of the staff were united in condemning the policy of the committee of management, and all of them signed a memorandum, dated December, 1911, to this effect. Certain members of the staff, representing their colleagues voiced the opinion of the medical board, more especially Dr. Tunnicliffe, Dr. Price, and Dr. Whiting.

At an adjourned meeting of the committee of management held on March 19th, 1913, one week after the meeting of the governors at which it was decided to sell the hospital at Hampstead, and at which Dr. Tunnicliffe and Dr. Whiting had both made speeches strongly condemnatory of the policy of the committee of management, the following motion was brought forward by the chairman that—

> A change of physicians is desired at Northwood and that the posts be offered to Dr. Johnston, Dr. Kelynack, and Dr. Lister.

It was only after the strongest protest from the representative of the staff present that this motion was referred to the medical board, the chairman at the same time giving notice that he should bring it forward at the next meeting. The motion was carefully considered by the medical board at their meeting on April 1st, 1913, and it was pointed out that the appointments at Northwood were annual ones that Dr. Whiting and Dr. Price were appointed in November, and therefore their appointments could not be justly terminated in April without notice. Attention was also drawn to the fact that the motion was in itself inconsistent in so far as, although a desire was expressed to have other physicians, its proposer purposed retaining Dr. Johnston, who had been visiting physician to Northwood institution for over four years. As a result of the discussion the following resolution was proposed, seconded, and unanimously carried:—

> That for a year, or until such time as the hospital at Hampstead be sold (provided that this take place before April 10th, 1914), the present physicians continue to attend at Northwood; but that in the case of the Hampstead hospital being sold the duties of the present medical staff of the hospital, with regard to Northwood, be considered *de novo*.

At the following meeting of the committee of management on April 16th the chairman moved his resolution, viz.:—

> That Dr. G. F. Johnston, Dr. T. N. Kelynack, and Dr. T. D. Lister be appointed visiting physicians at Northwood.

And in spite of the resolution of the medical board and the protest of the representatives of the staff, who recited the arguments that had been used at the meeting of the medical board, this resolution was carried *nem. con.*

The next step taken by the committee of management was the despatch on April 17th of letters to Dr. Price and Dr. Whiting, informing them of the new appointments at Northwood and saying to each: "Your appointment as a visiting physician at that hospital now terminates."

On the receipt of this letter the physicians in question consulted their colleagues and their lawyers and the whole matter was again discussed at the meeting of the medical board on May 6th. As a result of these consultations Dr. Price and Dr. Whiting wrote to the secretary of the hospital informing him that they could not accept these letters as valid notice of the termination of their appointments at Northwood and in accordance with legal advice they continued to attend as physicians to that institution. Their letters and action elicited three letters from the committee of management, one each to Dr. Price and Dr. Whiting, acknowledging their letters of protest and enclosing the following extract from the minutes of the meeting of the committee held on April 16th.

> The period for which the present physicians to the Northwood Hospital were appointed having expired, the Chairman moved, in accordance with notice, that Dr. Johnston, Dr. Kelynack, and Dr. Lister be elected visiting physicians to the hospital at Northwood for a period of 12 months from this date.

The third letter was written by the chairman of the committee of management to the resident medical superintendent at Northwood, informing him of the election of Dr. Johnston, Dr. Kelynack, and Dr. Lister as visiting physicians to Northwood for the present year and the termination of the appointments of Dr. Price and Dr. Whiting, and concluding:—

> I must ask you not to allow any physician to treat the patients except the three above named. I understand you have distributed all the patients between them.

The medical board at their meeting on May 6th, after considering carefully these letters and the action of the committee of management since their last meeting, felt that the best way of dealing with orange juice was treated in the same way as the vinegar, and showed almost similar results, except that the corpuscles settled to the bottom and no acid hæmatin was seen. Undiluted orange juice produced a slight change in the blood, which looked like some proteid coagulation. I append the following results of other experiments:—

Vinegar.

Diluted 1 in 8 with normal saline + blood = no coagulation.
" 1 in 16 " " " + " = partial coagulation.
Normal saline + blood = complete coagulation.

Sodium Acetate.

1% solution in normal saline + blood = complete coagulation.
$\frac{1}{4}$% " " " " + " = " "
$\frac{1}{16}$% " " " " + " = " "

Sodium Acetate + Acetic Acid.

(Sufficient acid was added to make solution distinctly acid to test papers.)
2% solution in normal saline + blood = no coagulation.
1% " " " " + " = " "
$\frac{1}{4}$% " " " " + " = " " if sufficient acid is present.

Orange Juice.

Diluted 1 in 4 with normal saline + blood = no coagulation.
" 1 in 8 " " " + " = " "
" 1 in 16 " " " + " = mostly coagulated.
Normal saline + blood = completely coagulated.

There are several matters upon which I hope to report further results at a future date, such as: 1. In what form are vinegar, orange juice, &c., absorbed into the circulation? 2. Are they able to repeat *in vivo* the results obtained *in vitro*? 3. What amount of any of them would be required to be absorbed into the circulation to produce menorrhagia or post-partum hæmorrhage? 4. Are all or only certain people liable to be so affected, and why? 5. If we assume that menorrhagia, &c., could be so produced, how long would the effect of these vegetable acids continue?

Again, the question may be considered, might vinegar and the others produce such effects upon the polymorphonuclear leucocytes or upon the tissue walls as to lead to diminished coagulability.

With regard to treatment one naturally suggests the stoppage of the supposed offending substance in the dietary and the exhibition of calcium salts.

I am, Sir, yours faithfully,
BERNARD MYERS, M.D.Edin., M.R.C.P.Lond.,
Medical Registrar to the Royal Waterloo Hospital.
Wimpole-street, W., Nov. 26th, 1913.

PS.—Since writing the above I have read a most interesting article by Sir A. E. Wright bearing upon this subject.[1] He writes: "Either oxalic acid, citric, tartaric or malic acids, or the soluble salts of these acids, are at our disposal for this purpose (the prevention of the coagulation of the blood). Oxalic acid and oxalates are, however, contra-indicated owing to their poisonous properties." He further states "that tartrates and citrates taken by the stomach showed no diminution in their action even in large doses." He demonstrated the fact that tartaric acid and also citric acid, if swallowed, gave in a few hours definite diminished blood coagulability. Thus the trend of his experiments also supports the suggestions made in this letter.

RANGE OF FLIGHT OF MUSCA DOMESTICA.

To the Editor of THE LANCET.

SIR,—In your issue for to-day is a very interesting letter from Dr. J. T. C. Nash under the above heading. In view of the possibility of poliomyelitis being transmitted by the flies Stomoxys calcitrans, as I showed in a paper which recently appeared in your columns,[1] any evidence as to the range of flight of these latter flies would also be of extreme interest, and I write in the hope that Dr. Nash may be able to afford this.

I am, Sir, yours faithfully,
Harley-street, W., Nov. 29th, 1913. PAUL B. ROTH.

THE NATIONAL INSURANCE ACT.

CLAUSE 2 (ii.) OF THE NEW DRAFT AGREEMENT.

WE published a letter from Dr. T. Cuming Askin in our issue of Nov. 22nd, stating the strong objection felt by many of the medical profession to the clause in the new draft agreement for panel practitioners which engages them to accept no fee from an insured patient beyond the payment for which their agreement provides. We sympathise with Dr. Askin's view, particularly because in the absence of a wage limit there is a large proportion of the insured public which could easily afford to pay extra fees. But it must be remembered that if the contracts for the treatment of insured patients are to be regarded as between the Insurance Committees and the medical practitioners—and there are distinct advantages to practitioners in regarding their contracts in this way—it is essential that no special bargains or arrangements should be introduced as between practitioners and patients that are unrecognised by the Commissioners. The East Suffolk Insurance Committee have endorsed the view of the Local Medical Committee and Dr. Askin with only one dissentient voice, replacing the word "accept" with the word "demand," and making the clause run:—

> The practitioner shall not demand any fee or other remuneration in respect of treatment which he is required to give under this agreement, except as provided in this agreement

Since then the Insurance Committees of Kent and Surrey have interviewed the Commissioners upon this and other of the new Regulations with most satisfactory results. The Commissioners see nothing in the above clause to preclude agreements between insured patients and doctors to secure special treatment, if the patient understands what his statutory rights are, and himself requests an individual contract.

EXTRAVAGANT USE OF DRUG FUNDS.

AN interesting report made by a Subcommittee of the Dundee Local Medical Committee deals with the question of the relative expense of prescriptions when economy is exercised and when proprietary articles are avoided and when these precautions are not exercised. The same subject was referred to with regard to the action of the Manchester Subcommittee in THE LANCET of Oct. 4th, p. 1033. At Dundee the Drug Fund for the past half year has been found to be exhausted and the Suspense Fund for the same period has been encroached upon to the extent of 2¾*d.* out of 3*d.* per insured person, the average cost per prescription having been found to be 10½*d.* The Subcommittee reports: 1. That expensive medicines and appliances are habitually ordered. 2. Also that excessive quantities are habitually ordered of certain applications and dressings. 3. That "multiple repeats" on one prescription form are habitually ordered. 4. That many prescription forms are unsigned. 5. That *the use of the carbon interleaf is not* adhered to.

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[1] Brit. Med. Jour., 1894, p. 60.

[1] THE LANCET, Nov. 15th, 1913, p. 1378.

6. That over 70 per cent. of the prescriptions were supplied to women. Women constitute about one-half of the total number of insured persons in this area. An analysis of the payments made to the chemists shows that, out of 33 chemists whose prescription forms range from 382 to 3173 in number, 19 are below the average (10½*d.*), the lowest being 7·3*d.*, and of the others three are above 1*s.*—viz., 1*s.* 2*d.*, 1*s.* 1*d.*, and 1*s.* 0½*d.* In the first case (1*s.* 2*d.*) the high average is due to having dispensed stock, vaccines, and many "multiple repeat" prescriptions. In the second case (1*s.* 1*d.*), to having dispensed, out of a total of 446 prescriptions, 119 for liq. paraffin and ext. of malt. In the third (1*s.* 0½*d.*), to having dispensed a greater proportion of prescriptions much above the average cost. The prescriptions of one of the chemists to the order of two practitioners were examined and a comparison made, and finally the Subcommittee suggested that, without infringing the liberty of the individual practitioner, efficient medication might be maintained and more economy exercised: (1) if, where a substance occurs both in the tariff list and under a proprietary name, the tariff name were systematically used; (2) if less quantities were ordered when there was no indication for prolonged use; and (3) if the practice of giving "multiple repeat" prescriptions were discontinued.

A CONFERENCE OF NON-PANEL PRACTITIONERS.

A conference of medical men representing non-panel associations was held at the Waldorf Hotel, London, on Saturday last, Nov. 29th, when 95 delegates attended, representing about 1000 members. Dr. J. S. Prowse, secretary of the National Medical Union, which body had summoned the conference, welcomed the delegates. On the motion of Dr. R. Carswell, Mr. William Coates, C.B., D.L., chairman of the National Medical Union, was called to the chair, Dr. Carswell and Dr. Prowse being elected secretaries of the conference.

The Chairman, in an introductory address, detailed the story of the fight which attended the coming into force of the National Insurance Act, and said that there was now no rallying ground for 10,000 non-panel practitioners who were convinced that the Act was derogatory to the medical profession and a menace to public health.

Mr. G. A. Wright then moved:—

> That this meeting of delegates from non-panel medical associations agrees to form an organisation with central offices in London by the federation of existing non-panel bodies.

In support of the resolution he pointed to the increasing number of non-panel associations, the general dissatisfaction with the administration of medical benefits under the Acts, and the need for powerful combination to obtain drastic amendments. Protection, he said, was undoubtedly necessary against the effects of the Act in depriving doctors of their practices on no other ground than refusal to join a panel, while the work in many instances under the panel system was, he declared, worse than it had been under the old club system. The general approval of the medical profession was essential to the proper working of an Insurance Act, but 10,000 practitioners disapproved of the way in which medical benefits were being administered.

Dr. H. B. Greene, in seconding the resolution, said that the medical profession had been badly treated by politicians and capitalists, and that money might soon be used to bring millions of women and children under the operation of the Act.

The resolution was unanimously adopted.

Mr. F. Porter then proposed:—

> That the principal condition of membership of the new association shall be the refusal of service in any capacity under the existing National Insurance Acts, 1911-1913.

He could not understand the position of non-panel men who joined committees under the Acts.

Dr. Carswell said that the point lay in the words "in any capacity." That was an uncompromising position to take up, but the conference was called to delimitate a new medical organisation. On biological principles it was better to define a species too narrowly than too broadly, so as to escape the difficulties of including incompatible elements.

Mr. E. B. Turner moved as an amendment to leave out all words after "shall be" and to substitute:—

> That no member shall be on the panel, or have a partner or an assistant who is on the panel, or shall be a referee, or accept any paid office under the National Insurance Acts, 1911–1913.

He considered that the presence of strong non-panel men on the statutory committees was of value to the profession.

Dr. Montgomery Smith, in seconding the amendment, said that he was favourable to the resolution, but did not see how it could be carried out, and therefore supported the slower policy of the amendment. He reminded the conference that some of the best non-panel men were serving upon statutory committees at the invitation of those forming the conference.

After a keen debate, terminated by closure, the amendment was put to the meeting, the voting being by card according to the membership strength of the different associations. 530 votes were given against the amendment and 525 in favour of it.

Mr. Evan Jones then proposed an amendment to Dr. Porter's original resolution as follows:—

> That the principal condition of membership of the new federation shall be that applicants for membership shall not be on the panel, directly or indirectly, and that all local associations shall have power of autonomy.

The amendment being carried with two dissentients was then agreed to as a substantive resolution, Mr. Porter saying that he would have to take the opinion of his constituents on the matter.

On the motion of Dr. J. Brassey Brierley, seconded by Dr. H. B. Woodcock, it was agreed that the federated societies should bear the name of the National Medical Union; and on the motion of Mr. Porter, seconded by Dr. O'Sullivan, the annual subscription was fixed at one guinea.

The conference passed a vote of sympathy with Mr. H. C. Meacock and other practitioners at Wisbech in the suffering that they had undergone in connexion with the working of the National Insurance Act, and a vote of thanks to Sir Henry Burdett for opening the columns of the *Hospital* to non-panel advocacy.

The following were elected the provisional officers:—Presidents: Mr. G. A. Wright and Professor William Russell. Vice-Presidents: Dr. John Playfair, Mr. William Coates, Dr. Bernard O'Connor, and Mr. V. T. Greenyer. Treasurers: Dr. Brassey

Dr. Farquharson proposed the toast of "The Guests" in a humorous speech, and Mr. M. Dillon in reply acknowledged the services of Mr. Todd both to the profession and to the public. Many who were unable to be present at the dinner sent letters of apology and appreciation of Mr. Todd's work and worth.—At Torquay on Nov. 19th Dr. William Odell was presented by the members of the local branch of the Young Men's Christian Association with an illuminated address and an inscribed silver salver on the occasion of his leaving for St. Mary Church. Dr. Odell has taken great interest in the work of the Y.M.C.A., and for seven years was president of the Torquay branch.

Lister Memorial Fund.—The following contributions have been made recently to the Lister Memorial Fund: Newcastle-on-Tyne committee, £46 7*s.*; members of the Newcastle-on-Tyne Clinical Society, £61 9*s.*; Newcastle-on-Tyne Clinical Society, £5 5*s.*; British Medical Association, Ceylon Branch, £14 7*s.* 9*d.*; Burma Branch, £19 3*s.* 7*d.*; Otago Division, New Zealand Branch, £5 5*s.*; Union of Swedish Hospital Surgeons, £20; University of Nancy (Faculty of Medicine), 100 francs; University of Bordeaux (Faculty of Medicine), 150 francs; Nottingham Medico-Chirurgical Society, £6 9*s.*; Plymouth Medical Society, £5 5*s.*; and Wigan Medical Society, £2 2*s.* Donations may be sent to the honorary treasurers of the fund at the Royal Society, Burlington House, London, W.

Society of Apothecaries: Dinner to the Lord Mayor of London.—On Friday evening, Nov. 28th, the Society of Apothecaries entertained the Lord Mayor of London and the Sheriffs, as representatives of the Corporation of the City of London, and other distinguished guests representing the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Pharmaceutical Society. To a large and representative company the Master of the Society of Apothecaries, Mr. Martindale Ward, explained the close connexion of the Society with the Royal Corporations, and commented on the fact that there were present at table, in the new Lord Mayor, one of the youngest occupants of the great civic chair, as well as his predecessor, Sir Thomas Crosby, who possessed the distinction of being the oldest man who had ever been elected to that dignified office, as well as being the only medical Lord Mayor of recent times. Sir Vansittart Bowater, in replying for the Corporation of London, took up the comparison of his own age with Sir Thomas Crosby's age by pointing out that in this way the Corporation of London could well be symbolised, possessing as it did both the dignity and experience appertaining to age and the progressive spirit associated with youth. The senior warden, Mr. Meredith Townsend, in proposing the prosperity of "The Royal Colleges," alluded to their historic rivalries and associations with each other and with the Society of Apothecaries. Dr. Norman Moore, speaking for the Royal College of Physicians of London, explained the evolution of learned corporations from the old trade guilds. He pointed out that in the Inns of Court we still possessed examples of the old guild in its purest state—namely, an association of men with common interests working for the good of the country by the advancement of those interests and the care and education of the recruits to their calling. In the Society of Apothecaries we had, he said, a good example of the mediæval guild enjoying privileges under a Royal Charter; while in the Royal College of Physicians we had a corporation having its origin in the spread of learning which followed the great Renaissance, the object here being primarily the inculcation of wisdom and the diffusion of knowledge. In a learned and humorous little address Dr. Moore happily pictured the advantages that the audience would have derived by hearing from their own lips the conversation of Mayerne and Tyson, who undoubtedly as representatives of the College of Physicians at their respective far-off days had dined as guests with the Society of Apothecaries Mr. G. H. Makins, who replied for the Royal College of Surgeons of England, described his own experiences as a candidate for the Licence of the Apothecaries Society, when he triumphantly passed the ordeal after being told by a venerable examiner in obstetrics that "if you did that thing, Mr. Makins, you would be a very naughty boy." The toast of "The Society of Apothecaries of London" was proposed by Sir David Ferrier and responded to by the Master; and that of "The Pharmaceutical Society," to which the President, Mr. Edmund White, replied, was given by Mr. G. Amsden, the Junior Warden. An excellent programme of music was interleaved with the speeches, the singers being Miss Edith Trevor, Miss Carrie Herwin, Mr. John Collett, and Mr. Edgar Coyle—At a meeting of the Court held before the dinner Sir William H. Power, F.R.S., formerly principal medical officer of the Local Government Board, was elected an honorary freeman of the society in recognition of his services to the State in regard to public health, while the Master also presented the gold medal of the society to Mr. J. E Harting in response to services rendered in preparing a catalogue for the library of the society.

The late Mr. Edward Nettleship's Bequests.—Subject to some small legacies, the late Mr. Nettleship, whose estate was of the gross value of £26,768 gross, with net personalty sworn at £23 225, left his property to his wife for life, and on her death £3000 to St. Thomas's Hospital to create or augment a fund for the endowment of lectureships in the medical school, and £1000 to the Royal London Ophthalmic Hospital. He also left, if the ultimate residue of his property should exceed £9000, a further £2000 to St. Thomas's Hospital Medical School for the same purpose as the above-mentioned legacy of £3000, and he also directed that £1000 additional should be paid to the Royal London Ophthalmic Hospital.

Glasgow University Club.—The annual dinner of the Glasgow University Club was held on Nov. 28th at the Trocadéro Restaurant, the chair being taken by Sir William S. McCormick, LL.D., secretary of the Carnegie Trust. Many medical graduates were present. In proposing the toast of "The University and the Club," the chairman said that they met under the shadow of the illness of their Principal, Sir Donald MacAlister. He was glad to say, however, that on the road south he had seen Sir Donald, who had asked him to tell them that he was progressing more rapidly than the doctors reported. He suggested that a telegram be sent to Sir Donald and Lady MacAlister, which was heartily acclaimed. Continuing, he spoke of his experience as secretary of the Carnegie Trust, which had disclosed to him unlimited defects in the University accommodation as shown by the complaints of the professors. An American millionaire who had recently visited him had startled him by asking how he would figure out the property, income, equipments, buildings, and so forth of a Scottish university—Glasgow, for instance—what they would stand at if being bought over. Having spent some time in figuring it out with his American friend, he gave his hearers the results of those calculations. When the University was removed in 1875 from High-street to its present position it had a sum of £400,000, of which £120,000 was contributed by the Government. With this sum they provided themselves with their present accommodation, then the most splendid university buildings in Europe. There was not a grumble as to accommodation from anyone, yet now, one generation later, many of the professors—among them those of anatomy, botany, chemistry, and natural philosophy—had left the old buildings as they would leave a rabbit warren, finding it impossible to conduct their business therein. Then they knew nothing of pathology in those days, and he could not say how much had been spent on Professor Muir's buildings, as they were only leased by the University from the Western Infirmary. Then their Randolph and Bute Halls, the Students' Union and Queen Margaret's College had been built. But notwithstanding that they had double the value in buildings in 1913 that they had in 1875, they were so discontented that extensions were contemplated that would require another million and a half of unremunerative—though not unproductive—capital. The income from all sources had increased from £27,900 in 1875 to £91,925 in 1912 (which capitalised meant £800,000 in 1875, or £3,000,000 in 1912), and of this students' fees now contributed £43,000, as against £12,000 in 1875. It was being spent well, yet the needs of the University were steadily growing. The students had increased in numbers from 1600 in 1875 to 2800 in 1912; the professors from 26 in 1875 to 36 in 1912; the lecturers from 1 to 75; the assistants from 12 to 60. The tutorial salaries in 1875 were £1680, in 1912 £23,098. The total contributions of students had risen from £12,000 to £43,000. Dr. J. Yule Mackay proposed the toast of "The Guests," which was responded to by Sir J. H. Biles, who referred to the presence of Professor Sadler, of the University of Michigan, and Rear-Admiral Capps, of the United States Navy, who were in England on account of the International Congress for the Safety of Life at Sea; also Mr. Ferguson, a former student of his own, now in command of the greatest dockyard in the United States, and Sir Archibald Denny, whom he described as one of Glasgow's greatest men. Sir Archibald Denny and Dr. Gregory Foster, Provost of University College, also replied. The Rev. J. Campbell Taylor proposed the toast of "The Chairman."

THE Representative Body of the British Medical Association at a special meeting on Thursday, Dec. 4th, passed by the requisite majority the proposal to increase the annual subscription for all members of the Association resident in the British Islands to 2 guineas per annum. 131 voted for the change, 42 against, and 2 did not vote.

WESTON-SUPER-MARE HOSPITAL.—On Nov. 26th a new wing fitted up for the X ray apparatus was formally opened at the Weston-super-Mare Hospital by Mr. E Baker in the presence of a large gathering

WILTSHIRE COUNTY ASYLUM, DEVIZES.—At the last meeting of the Wilts county council it was decided to erect a new detached block to the county asylum to provide accommodation for 200 additional patients. The cost of the scheme will be about £30,000

A CORNISH CENTENARIAN —The Rev. Philip Carlyon died at Falmouth on Nov 18th, aged 101 years. The deceased was a man of extraordinary vitality and took walks and attended church regularly until quite recently. He was born at St. Mawgan-in-Pyder, Cornwall, and had he lived until Dec 30th he would have been 102 years of age.

BRISTOL MEDICAL SCHOOL DINNER.—At the annual dinner of the Bristol Medical School held at the [illegible] In his reply Sir Felix Semon made an extremely interesting comparison between the extent of medical knowledge as it is to-day and as it was when he first came to London. He added some adverse criticisms on the report of the Royal Commissioners on University Education in London in so far as it seemed to limit clinical teaching, remarks with which the Vice-Chancellor, Sir Isambard Owen, agreed when replying later for the University of Bristol Dr. J. Michell Clarke spoke hopefully of the future of the Bristol Medical School, saying that more research is being carried on now than at any previous time in its history. In an amusing speech Mr. G. Munro Smith proposed the health of the chairman, Dr. P. Watson-Williams, remarking that the throat specialist who performed the largest number of capital operations in Britain was the public hangman There were some good songs, to which Sir Felix Semon added several pianoforte solos, including one of his own composition.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, Bartholomew Press, Bartholomew Close, London, E C COMBRIDGE AND Co, Dublin HANNA AND NEALE, Dublin ROTUNDA HOSPITAL Secretary of, Dublin

Th [illegible] History of the [illegible] 1745 to the [illegible] D, M R I A, [illegible] Physicians of [illegible] P I, Master of [illegible] ie, 18s, half [illegible] (The profits [illegible] f the hospital)

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London

A Manual of Practical Chemistry for Public Health Students. [illegible] H By A W. [illegible] istry at the [illegible]

Th [illegible] Edited by [illegible] 7s 6d, net.

BARTH, JOHANN AMBROSIUS, Leipzig

Lehrbuch der organischen Chemie für Mediciner. In siebzehn Vorträgen Von Dr. chem et med G v Bunge, Professor in Basel. Zweite vermehrte und verbesserte Auflage Price, paper, M.7; bound, M 8 25

CHAMBERS, W. AND R, LIMITED, 38, Soho-square, London, W, and [illegible]

[illegible] University Classes. Third [illegible] mplified By C G. Knott, [illegible] tary of the Royal Society, [illegible]

FISCHER, GUSTAV, Jena.

Handbuc [illegible]
Hans [illegible]
Band I'I [illegible]
Form [illegible]
Handbuc [illegible]
Dr. W. [illegible] A von [illegible] Zweite vermehrte Auflage Dreiundsechzigste Lieferung (Bd. VIII, Seite 609-720.) Price M 5

E [illegible] Price M 5.

GRIFFIN, CHARLES, AND Co, LIMITED, London.

Practical Sanitation. A Handbook for Sanitary Inspectors and others interested in Sanitation By George Reid, M D, D.P H. Seventeenth edition, revised Price 6s

KELLY, CHARLES H., 25-35, City road, and 26, Paternoster row, London, E C

National Health Manuals Youth Edited by T N Kelynack, M.D. Price, limp cloth, 1s net, cloth boards, 1s 6d net

LAURIE, T WERNER, LIMITED, Clifford's Inn, London

Wet Magic By E Nesbit With Illustrations by H R Millar. Price 6s

"LE PROGRÈS MÉDICAL," Rédaction et Administration, 41, Rue des Écoles, Paris

Medicus Guide-Annuaire des Étudiants et des Praticiens. 41e Année 1914 Price Fr 5

LIPPINCOTT (J B) COMPANY, Philadelphia and London.

Surgery of the Vascular System By Bertram M Bernheim, A B, M D, Instructor in Surgery, the Johns Hopkins University, [illegible]

[illegible] ted by Henry W Cattell, [illegible] with Collaboration [illegible] Price 35s. net per year

LIVINGSTONE, E AND S, Edinburgh

Materia Medica Notes By James A Whitla, L R C.P. & S. L P S I Price 2s 6d net.

LONGMANS, GREEN, AND Co, London, New York, Bombay, and Calcutta

The Progress of Scientific Chemistry in our Own Times, with Biographical Notices By Sir William A. Tilden, F R S, D Sc. Lond, Sc D Dub, D Sc Vict, LL D Birm. Second edition. Price 7s 6d net.

OLIVER AND BOYD, Edinburgh.

The Transactions of the Edinburgh Obstetrical Society. Vol XXXVIII Session 1912-1913 Price not stated.

ST CATHERINE PRESS, THE, 34, Norfolk street, Strand, London, W C. (For the National Food Reform Association)

[illegible]

Appointments.

[illegible] Public Institutions, [illegible] his column, are [illegible] ted to the Sub [illegible] morning of each [illegible]

ANDREWS, J. A, M B, Ch B Edin, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Lochgilp- [illegible]

BAR [illegible] nted [illegible]

BOL [illegible] nted [illegible]

BRO [illegible] the [illegible] nty of Argyll

CLIFFORD, HAROLD, M B Lond, F R C S Edin, M R C S, Eng., [illegible] the [illegible]

FLE [illegible] son [illegible] ton District of the county of Leicester

GRAHAM, LEWIS, M.S Lond, F R C S Eng, has been appointed Honorary Obstetric Registrar to the Birmingham Maternity Hospital

HAYES, J G, L R C P & S Irel, has been appointed Clinical Assistant to the Chelsea Hospital for Women

HORTON, R L, M B, B S, has been appointed House Physician at University College Hospital

MAYNE, W H, M B, B Ch Dub, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Warren- [illegible]

[illegible] been appointed Certify [illegible] shop Acts for the Matlock [illegible]

Owen, W. D., M.R C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Whitland District of the county of Carmarthen.

Pearson, W. J., M.B., B.C. Oxon., has been appointed Resident Medical Officer at University College Hospital.

Powne, Leslie, M.R.C.S., L.S.A., has been appointed Medical Officer of Health for the Crediton (Devon) Rural District Council.

Rigby, C. S., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Sedgeley District of the county of Stafford.

Saunders, P. W., M.B., M.R.C.P. Lond., has been appointed Assistant Physician to the Royal Free Hospital.

Wallace, J. M., M.B., B.C. Cantab., has been appointed Assistant in the Clinical Pathology Department at University College Hospital.

Wintle, Colston, L.R.C.P. Lond., M.R.C.S., has been re-elected Chairman of the Health Committee of the Bristol Town Council.

Wyard, Stanley, M.D., B.S. Lond., M R.C.P. Lond., has been appointed Pathologist to the Bolingbroke Hospital, S.W.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Argyle and Bute Asylum; Lochgilphead.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, and laundry.

Ashton-under-Lyne Union.—Resident Assistant Medical Officer. Salary £150 per annum, with rations, laundry, and residence.

Birmingham City Hospital, Lodge-road.—Assistant Resident Medical Officer. Salary £150 per annum, with board, residence, &c.

Brentford Union Infirmary, Workhouse, and Schools, Isleworth, W.—First Assistant Medical Superintendent, &c. Salary £185 per annum, with apartments, rations, washing, &c.

Brighton, Royal Sussex County Hospital.—Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

Brighton Throat and Ear Hospital, Church-street, Queen's-road.—Non-resident House Surgeon for six months. Salary at rate of £150 per annum.

Bristol Royal Infirmary.—House Surgeon for six months for Throat, Nose, and Ear. Salary £100 per annum, with board, apartments, and laundry.

Camberwell Infirmary, Brunswick-square.—Third Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

Cambridgeshire County Council.—Female Assistant County Medical Officer. Salary £300 per annum.

Cancer Hospital, Fulham-road, S.W.—Medical Registrar. Salary £100 per annum. Also Assistant in Chemical Department Research Institute. Salary £200 per annum.

Canterbury, Kent and Canterbury Hospital.—Senior House Surgeon and Junior House Surgeon, unmarried. Salaries £100 and £90 per annum respectively, with board, lodging, and washing.

Cardiff, King Edward VII.'s Hospital.—Two Honorary Assistant Physicians. Also Senior Resident Medical Officer. Salary £120 per annum, with board, washing, and apartments.

Carmarthen, Joint Counties Asylum.—Second Assistant Medical Officer. Salary £180 per annum, with board, lodging, washing, &c.

Charing Cross Hospital.—Medical Registrar.

Chester, County Asylum.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

Chester General Infirmary.—House Surgeon. Salary £100 per annum, with residence and maintenance.

Colchester, Essex County Hospital.—House Physician. Salary £100 per annum, with board, residence, and washing. Also House Surgeon. Salary £100 per annum, with board, washing, and residence.

Coventry and Warwickshire Hospital, Coventry.—House Physician. Salary £110 per annum, with residence, board, laundry, and attendance.

Croydon General Hospital.—Additional Member of Honorary Medical Staff.

Dartford, Darenth Industrial Colony, Kent.—One Second and one Third Assistant Medical Officer, unmarried. Salaries £210 and £180 respectively, with board, lodging, and washing.

Dumfries and Burghs, County of.—Two Medical Assistants to Medical Officer of Health and School Medical Officer. Salary £250 per annum.

Dundee Maternity Hospital.—Out-door Assistant for three months. Salary at rate of £40 per annum, with board, lodging, and laundry.

Exeter, Royal Devon and Exeter Hospital.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

Gateshead Asylum, Stannington, Northumberland.—Assistant Medical Officer, unmarried. Salary £220 per annum, with rooms, board, and laundry.

Glasgow District Mental Hospital, Gartloch.—Junior Medical Officer. Salary £200 per annum, with board, lodging, and laundry.

Glenalmond, Trinity College.—Resident Medical Officer.

Govan District Asylum, Crookston, near Glasgow.—Senior and Junior Assistant Medical Officers. Salaries £250 and £200 per annum respectively, with apartments, board, and laundry.

Great Yarmouth Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Halifax Royal Infirmary.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

Harrogate Infirmary.—Resident House Surgeon. Salary £75 per annum.

Hastings, East Sussex Hospital.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing. Also Assistant House Surgeon. Salary at rate of £80 per annum, with residence, board, and washing.

Hospital for Sick Children, Great Ormond-street, W.C.—Casualty Medical Officer. Salary £200 per annum, with luncheon. Also House Surgeon, unmarried, for six months. Salary £30, with board and residence.

Hospital for Women, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £30 per annum.

Hull and Sculcoats Dispensary.—Resident Surgeon. Salary £220 per annum, with house, gas, and coals.

Hull Royal Infirmary.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

Indian Medical Service.—Commissions in His Majesty's Indian Medical Service.

King's Langley, Leavesden Asylum, Herts. — Second Assistant Medical Officer, unmarried. Salary £210 per annum, with board, lodging, and washing.

Lancaster County Asylum.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, washing, and attendance.

Leeds General Infirmary.—House Physician for six months. Also House Surgeon. Each with board, residence, and laundry.

Leeds Infectious Diseases Hospitals and Sanatorium for Tuberculosis.—Assistant Medical Officer, unmarried. Salary at rate of £130 per annum, with board, lodging, and washing.

Leeds Public Dispensary.—Honorary Physician, Honorary Surgeon, Honorary Surgeon to the Eye Department, and Honorary Pathologist.

Lewes Victoria Hospital.—Resident Medical Officer. Salary £120 per annum, with apartments, board, washing, attendance, &c.

Liverpool, County Asylum, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, attendance, and washing.

Liverpool Stanley Hospital.—Two House Physicians. Salary £75 per annum each, with board, residence, and laundry.

Lowestoft Hospital.—House Surgeon, unmarried. Salary at rate of £150 per annum, with board, residence, and laundry.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Macclesfield General Infirmary.—House Surgeon. Salary £125 per annum, with board and residence.

Manchester, Corporation of.—Assistant to the Medical Officer of Health. Salary £300 per annum.

Manchester Hospital for Consumption and Diseases of the Throat and Chest.—Assistant Medical Officer and Pathologist. Salary £60 per annum.

Manchester, Monsall Fever Hospital.—First Medical Assistant and Third Medical Assistant. Salary £200 and £130 per annum respectively, with board, lodging, and washing.

Manchester Royal Infirmary.—Medical Officer for Out-patients and Accidents for six months. Salary at rate of £100 per annum, with board and residence.

Mile End Old Town, Hamlet of.—Junior Assistant Medical Officer. Salary £140 per annum, with board, lodging, and washing.

Miller General Hospital for South-East London, Greenwich-road, S.E.—Honorary Assistant Ophthalmic Surgeon. *Also Honorary* Physician.

National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury.—Pathologist. Salary £250 per annum.

Newcastle-upon-Tyne City Asylum, Gosforth.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with apartments, board, and laundry.

Northampton General Hospital.—Senior Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, and attendance.

Nottingham City Education Committee.—Third Medical Inspector. Salary £300 per annum.

Nottingham General Dispensary.—Resident Surgeon, unmarried. Salary £220 per annum, with apartments, attendance, light, and fuel.

Oxford County Asylum, Littlemore, near Oxford.—Assistant Medical Officer. Salary £200 per annum, with apartments, board, and washing.

Perth District Asylum.—Assistant Physician. Salary £120 per annum, with board, lodging, and laundry.

Plymouth, South Devon and East Cornwall Hospital.—House Physician for six months. Salary £90 per annum, with board, residence, and washing.

Portsmouth Royal Hospital.—House Physician for six months. Salary £80 per annum, with board, &c.

Richmond, Surrey, Royal Hospital.—Assistant House Surgeon. Salary £70 per annum, with board, apartments, and washing.

Rochester, St. Bartholomew's Hospital.—Resident House Surgeon, unmarried. Salary at rate of £150 per annum, with board, residence, and laundry.

Royal Eye Hospital, Southwark, S.E.—Senior and Junior House Surgeons for six months. Salary £70 and £50 per annum respectively, with board and residence. Also Clinical Assistants.

Royal Free Hospital, Gray's Inn-road, W.C.—Assistant Surgeon.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

St. George-in-the-East Dispensary for the Prevention of Consumption, 208, High-street, Shadwell, E.—Assistant Medical Officer. Salary £250 per annum.

St. Marylebone Infirmary, Rackham-street, Notting Hill, W.—Third Assistant Resident Medical Officer, unmarried, for six months. Salary £50, with apartments, rations, and washing.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer for six months. Salary at rate of £70 per annum, with residence, board, and laundry.

Sheffield Royal Hospital.—Assistant House Physician, unmarried. Salary £80 per annum, with board, lodging, and washing.

Shrewsbury Dispensary.—Two Vacancies on Medical Staff.

Southampton, Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

Taunton, Somerset and Bath Asylum, Cotford.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, attendance, &c.

Wakefield, West Riding Asylum.—Assistant Medical Officer. Salary £200 per annum, with apartments, board, washing, and attendance.

W [illegible]

W [illegible]

W [illegible]

[illegible] **ard Infirmary and Dispensary.**—[illegible] alary £100 per annum, with rations, [illegible]

[illegible] *Hospital for Windsor, Eton, and* [illegible] Salary £76 per annum, with [illegible]

[illegible] Medical Officer. Salary [illegible] washing Also Clinical [illegible] r annum, with board, [illegible]

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Kidsgrove, in the county of Stafford; and at Redhill, in the county of Surrey

The Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for York, Thirsk, Helmsley, and Easingwold County Courts. Applications should be addressed to the Private Secretary, Home Office, S W., and should reach him not later than Dec. 23rd

\. The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of The Lancet

Births, Marriages, and Deaths.

BIRTHS

White.—C [illegible] Mrs Joseph [illegible]

Wight.—C [illegible] fe of Edwarc [illegible]

MARRIAGES.

Cowan—Edg[illegible] [illegible] Thetford, Geoffrey [illegible] est [illegible] ad, [illegible] to [illegible] ne

DEATHS.

Godson.—On Nov. 26th, at Montagu Mansions, W., Clement Godson, M D., V D., of Sharsted Court, Westgate-on Sea, Knight of Grace [illegible]

[illegible] Carmarthen, suddenly, [illegible] acute nephritis, Kate [illegible] imson, R A M C., and [illegible] late Litton Clarke, of Chandos street, Cavendish square, aged [illegible]. (By cable.)

Walch.—On Nov. 27th, at Brighton, Charles Nash Crosby Walch, M.B., of "The Croft," Rustington, aged 44 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

The Lancet Office, Dec. 3rd, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks.
Nov 27	30 42	S W.	...	57	54	41	41	42	Overcast
" 28	30 38	W.	...	75	57	42	51	52	Cloudy
" 29	30 40	S W.	...	70	56	45	46	46	Overcast
" 30	30·33	S W.	...	67	64	43	47	49	Cloudy
Dec. 1	30 13	W	...	59	54	46	51	53	Cloudy
" 2	30 10	S W.	0 07	59	55	48	48	48	Raining
" 3	29 82	S W.	...	61	55	48	49	51	Overcast

Notes, Short Comments, and Answers to Correspondents.

THE DIAGNOSIS AND TREATMENT OF SYPHILIS.

To the Editor of The Lancet.

Sir,—I should be greatly obliged if you would kindly [illegible] e primary [illegible] are often [illegible]

2 Is it not true that the secondary eruptions, sore throat, [illegible] t the infection show [illegible]

[illegible] mmonly) have been known to suffer from tertiary syphilis, although they honestly deny having been aware of having suffered from a primary sore or rashes?

4 Is "606" treatment "often fatal"? Could you give me any idea as to the death rate of the treatment?

5 Is a negative Wassermann (especially if the test is carried out 12 months or so after the patient has been thoroughly salivated and has had a partial mercurial treatment during the interval) worthy of serious consideration, although a positive result would be of great value in deciding diagnosis?

6. Does not a partial mercurial treatment often bring a pregnancy nearly to full term, and does not a thorough treatment often prove successful in producing a living child which in many cases can be reared successfully?

7. Is the above mercurial treatment, even if the mother is salivated early in the pregnancy, likely to cause the death of the fœtus at nearly full term?

I am, Sir, yours faithfully,

Nov. 15th, 1913. M.B., B S.

\. 1 It is true that in women no history may be obtainable of the existence of a primary [illegible] the inguinal glands may be [illegible] manifestations may be very [illegible] may occur 3 Cases certain [illegible] resent 4 The mortality [illegible] There have been deaths [illegible] the percentage must be [illegible] w [illegible] lc [illegible] 5 [illegible] tc [illegible] a [illegible] 6 [illegible] al [illegible] tl [illegible] of the fœtus.—Ed L.

SMALL POX IN FRENCH WEST AFRICA

Captain C Braithwaite Wallis, British Consul General at Dakar, in a report to the Foreign Office on the affairs of French West Africa (comprising Senegal, French Guinea, Ivory Coast, French Sudan, and Mauritania), *states that* small-pox is unfortunately common amongst the natives in certain of the territories, and he praises the medical officers for the great energy they have shown in their endeavours to check the scourge The medical staff consists of 43 military and 27 civil officers, and in the year 1911-12 they carried out, with some assistance from native dressers, 1,020,110 vaccinations A long list is given of places at which epidemics of small pox occurred during the year, but there appear to be no returns as to the number of cases or deaths.

THE DOCTOR'S DAILY REGISTER.

This is a new form of visiting list, compiled by Fred W. Menzies, A.S.A.A., and published by George Waterston and Sons, *London* and Edinburgh. It consists of a convenient loose leaf leather case to hold a month's supply of sheets for attendances, ruled on the well-known plan, a month to the open page, with cash column; also blue sheets for panel patients, the cash column being replaced by a diagnosis column; a/c sheets for (*a*) receipts, (*b*) expenses, with an a/c column to aid in analysis of expenses; analytical motor expense sheets, consultation, obstetric, and vaccination sheets. *The sheets are retained by screws* that add nothing to the bulk of the back of the book, thus avoiding the awkward mechanical contrivances which lessen the value of most loose leaf books for pocket use. [illegible] for notes. The price [illegible] any sheets that the individual doctor may not need to use, or more than a month's supply at a time, thus reducing the entire thickness of the full book to a quarter of an inch, while the subsequent filing of the completed sheets constitutes them an original record. The paper is good and takes the ink well. The book is handy, compact, and serviceable.

Mr. F. A. Windebank.—A general answer is impossible; it depends on the nature of the liquid or the solid and on the state of the patient's digestion.

Minor should send his question through his medical attendant, whom we should be pleased to advise.

Mr. R. Crawford (Sheffield).—Our correspondent's explanation is ingenious but unsound.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Mr. A. Mallock: Intermittent Vision.—Mr. W. Wahl: The Relations between the Crystal-symmetry of the Simpler Organic Compounds and their Molecular Constitution—Part III. (communicated by Sir James Dewar).—Prof. G. G. Henderson and Mr. J. M. Heilbron: The Selective Absorption of Ketones (communicated by Dr. G. T. Beilby).—Mr. F. E. Smith: Absolute Measurements of a Resistance by a Method Based on that of Lorenz (communicated by Dr. R. T. Glazebrook).—Mr. A. N. Shaw: A Determination of the Electromotive Force of the Weston Normal Cell in Semiabsolute Volts. With a Preface by Prof. H. L. Callendar (communicated by Prof. H. L. Callendar).—Mr. F. E. Rowett: Elastic Hysteresis in Steel (communicated by Prof. B. Hopkinson).—Mr. F. W. Aston: A Simple Form of Micro-balance for Determining the Densities of Small Quantities of Gases (communicated by Sir J. J. Thomson).—Mr. T. R. Merton: On a Second Spectrum of Neon (communicated by Prof. G. D. Liveing and Sir James Dewar).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart), at the Royal Bethlem Hospital, St. George's Fields, S.E.: at 4.30 P.M.

Cases:

Dr. W. H. Stoddart: (1) Hypopituitarism; (2) (?) Anxiety Neurosis; (3 and 4) Dementia Paranoides; (5) Congenital Neurasthenia.

And other Cases.

SECTION OF SURGERY (H Secretaries—J. Murray, Raymond Johnson): at 5.30 P.M.

Papers:

Mr. Gilbert Kempe: Brachial Arteriovenous Aneurysm Successfully Treated by Vascular Suture.

Mr. V. Zachary Cope: The Early Diagnosis and Treatment of Ruptural Intestine.

Mr. H. Betham Robinson: Case of Endothelioma of the Breast.

THURSDAY.

SECTION OF SURGERY: SUB SECTION OF ORTHOPÆDICS (Hon. Secretaries—A. S. Blundell Bankart, E. Rock Carling): at 4.30 P.M.

Mr. C. Max Page: An Apparatus for the Reduction of Some Deformities of the Joints, with Special Reference to the Knee.

Mr. R. C. Elmslie: Two Cases of Paralysis of the Serratus Magnus and Trapezius with Deformity of an Unusual Type.

SECTION OF NEUROLOGY (Hon. Secretaries—T. Grainger Stewart, H. Campbell Thomson): at 8 P.M.

Clinical Meeting.

Demonstration of Cases:

Dr. Turney: (1) Case of Cerebellar Tumour; (2) Functional Hemiplegic Contracture, Œdema of Hand and Face.

Dr. James Taylor: Friedreich's Ataxy with Unusual Commencement.

Dr. F. E Batten: (1) Glioma of the Cerebellum; (2) Two Cases of Poliomyelitis with Unusual Symptoms.

Dr. James Collier: Two Cases of Thomsen's Disease.

Dr. Purves Stewart: Hysterical Brachial Monoplegia following an Electric Shock.

Dr. Farquhar Buzzard: (1) Diffuse Sclerodermia; (2) Acute Cerebellar Ataxia in an Adult.

Any other Members desiring to show cases are requested to send in their abstracts to Dr. Grainger Stewart, 54, Queen Anne-street, W., by Monday morning, Dec. 8th.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, William J. Midelton): at 4.30 P.M.

Discussion:

On Enlargement of the Spleen in Children (opened by Dr. Robert Hutchison and Sir John Bland-Sutton). Followed by Dr. G A. Sutherland and others.

Fellows and Members wishing to take part in the discussion are requested to send in their names to Dr. Langmead.

CLINICAL SECTION (Hon. Secretaries—W. Essex Wynter, Thomas H. Kellock): at 8.30 P.M.

Dr. F. Parkes Weber: Case of Chronic Myelocytic Leukæmia treated by Benzol, &c.

Mr. Arthur Evans: Case of Suppression of Urine after Operation for Acute Appendicitis Cured by Double Nephrotomy.

Mr. Thomas H. Kellock: Three Cases of Malignant Disease after Treatment with Radium.

Dr. Frederic S. Palmer: Case of Congenital Heart Disease with Hemiplegia.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Sir Anthony Bowlby, C.M.G., and Mr. D'Arcy Power: A Case of Aneurysm of the Arch of the Aorta treated by Colt's Method of Wiring, Death Four Months Later (with specimen).—Mr. T. H. Kellock: Circumcision—the Advantages of a Modified Operation.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

WEDNESDAY.—8 P.M., Mr. T. T. Baker: The Application of Electricity to Agriculture and Life.

PLYMOUTH MEDICAL SOCIETY, Athenæum Chambers, Athenæum-lane, Plymouth.

WEDNESDAY.—8.30 P.M., Paper:—Mr. R. Jaques: A State Medical Service.

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S.W.

WEDNESDAY.—9 P.M., Mr. P. W. G. Sargent: Some Common Affections of the Knee Joint.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

THURSDAY.—5 P.M., Surgeon-General Sir Launcelotte Gubbins, K.C.B., M.V.O.: Jean Dominique, 1st Baron Larrey—his Life and Work.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8 30 P.M., Paper:—Sir Ronald Ross, K.C.B: The Study of Infections by Enumerative Methods (illustrated by lantern slides).

HUNTERIAN SOCIETY, St. Bartholomew's Hospital (Library), E C.

WEDNESDAY.—9 P.M., A Series of Short Papers will be read.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY, Board Room of the Great Northern Central Hospital, Holloway-road, N.

THURSDAY.—9 P.M., Paper:—Dr. Constance Long: Treatment by Psychotherapy.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. W. Fox: Clinique (Skin). 5.15 P.M., Lecture:—Mr. R. Davies-Colley: Acute Inflammation of the Long Bones.

TUESDAY.—4 P.M., Dr. R. H. Miller: Clinique (Medical). 5 15 P.M., Lecture:—Mr. J. F. O'Malley: The Hæmorrhage of Tonsil and Adenoid Operations.

WEDNESDAY.—4 P.M., Mr. G. Taylor: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. C. A. Pannett: Obstruction in the Small Intestine.

THURSDAY.—4 P.M., Mr. J. K. Murphy: *Clinique (Surgical).* 5 15 P.M., Lecture:—Dr. E. C. Hort: Gastric Ulcer and Micro-organism.

FRIDAY.—4 P.M., Mr. J. G. French: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Med[illegible] tration of Cases in Wards. 12 noon, Dr. [illegible] Demonstration. 2 P.M., Medical and Surg[illegible] Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Pernet: Extra-genital Chancres.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. [illegible] of Cases in Wards. [illegible] P.M., [illegible] ons. [illegible] net: [illegible] Diseases of the Skin. 5 P.M., Lecture:—Dr. Pernet: Syphilitic Headache.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar [illegible] 2 P.M., Medical and Surgical Clinics. [illegible] Operations. Mr. B. Harman: Diseases of t[illegible] [illegible]eases of Women. 5 P.M., Lecture:—Dr. [illegible] [illegible]ilitic Rashes.

THURSDAY.—10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye 5 P.M., Lecture:—Mr. Souttar: Injuries to Nerves in General Practice.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin 5 P.M., Lecture:—Mr. Souttar: Injuries to Nerves in General Practice.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: [illegible]

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cine. 4 30 P.M., Special tinal and Urinary Antiseptics.

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N([illegible]

rations (Mr. Gillies) [illegible]

Brooks).

THU [illegible]

FRI. [illegible]

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON). Clinical Theatre, London Hospital, Mile End road, E.

Course of Lectures on the *Neuroses and Psychoses of Children*.—

TUESDAY.—2 P.M., Dr. F. Warner. Study of Modes of Brain Action

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, *Brompton, S.W.*

WEDNESDAY.—4 30 P.M., Lecture.—Dr. R. A. Young. Interlobar and Encysted Empyemata.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3 30 P.M., Clinical Lecture:—Dr. K. Wilson Pellagra.

FRIDAY.—3.30 P.M, Clinical Lecture:—Dr. K. Wilson. Apraxia in Relation to Aphasia.

THE THROAT HOSPITAL, Golden square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

[illegible]

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.

WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Dr. Cunliffe Cardiac Muscle Failure.

THURSDAY.—ANCOATS HOSPITAL—4 30 P.M., Mr. J. Morley Non-operative Treatment of Fractures of the Arm

FRIDAY.—ROYAL EYE HOSPITAL—4 30 P.M., Dr. H. Griffith: Chronic Glaucoma.

UNIVERSITY OF SHEFFIELD POST GRADUATE CLINICAL DEMONSTRATIONS.

TUESDAY.—SHEFFIELD ROYAL HOSPITAL.—3 P.M., Dr. Wilkinson. When to Remove Tonsils and Adenoids.

FRIDAY.—SHEFFIELD ROYAL INFIRMARY.—3 P.M., Dr. Barnes: The Treatment of Diabetes.

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For further particulars of the above Lectures, &c, see Advertisement Pages.

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Letters, each with enclosure, are also acknowledged from—

A.—Mr. T. Atkinson, Brading; Mr. E. B. G. Adams, Newbury; Mr. E. Arnold, Lond.; A. H.; Apollinaris Co., Lond.; Captain M. D. Ahern, R.A.M.C., Watford, Bermuda.

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ABSTRACT OF

A Lecture

ON

SOME COMMON ERRORS IN THE DIAGNOSIS OF NERVOUS DISEASE.

Delivered at the Medical Graduates' College and Polyclinic on Nov. 3rd, 1913,

BY S. A. KINNIER WILSON, M.D. EDIN., M.R.C.P. [illegible] B.Sc.,

ASSISTANT P[illegible] AND TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, LONDON.

GENTLEMEN,—The comparative neglect of the study of nervous disease [illegible]

[illegible] themselves with the subject nervous phenomena are not in reality difficult, however complex they may be. There appears to exist a certain confusion in the minds of some in this respect. Complex things are combinations of simple things, and if the attempt is made in methodical fashion to unravel the symptoms of a case of nervous disease its "difficulties," so-called, will be found rather to consist of "complexities" which can readily be reduced to lower terms. For the study of nervous disease is essentially a logical study. Effect follows cause so inevitably, the exteriorisation of a nervous lesion is seen in a train of [illegible] rule so unmistakable, th[illegible] minute diagnosis, is a com[illegible] practice. A lesion in [illegible] posterior inferior cerebellar artery, though its extent in any direction be less than 1 centimetre, produces a symptom-complex as easy of recognition as that of mitral stenosis. The symptomatology of an extracerebellar tumour is such that the satisfaction of the surgeon on finding it at operation is mild compared with the physician's surprise if it is not found. Although, no doubt, the subjective symptoms of which a patient with nervous disease may complain are probably capable, in [illegible] me explanation, there ca[illegible] to the interpretation of [illegible] such are obtained. In [illegible] seases of the chest, to take but one example, is, in my opinion, really difficult as compared with diseases of the nervous system. [illegible]

[illegible] enable the practitioner to "run over" the nervous system of a patient with surprising ease, and in the great majority of cases with a definiteness and certainty of result calculated to evoke a venial enthusiasm. It is true that many examinations demand much time, if they are to be complete, and [illegible]

It is no part of my object at present to discuss methods of [illegible] be assumed [illegible] endeavour t[illegible] that occur [illegible] ascertain in, [illegible]

DIFFERENTIATION OF "ORGANIC" AND "FUNCTIONAL" CASES.

At the outset the practitioner is confronted with the importance of distinguishing between two main groups or categories of cases, denominated respectively "organic" and "functional"—a description sanctioned by [illegible] not much to c[illegible] the last house [illegible] the National Hospital, and I remember how on one occasion he asked if any new cases had been admitted under his care. On my replying "Yes, an ordinary case of functional fits," he said: "Did you ever see a fit that was not 'functional'?" and the rebuke was well merited. Hidden as it almost always is from the eye, an organic nervous lesion can only reveal itself *by a disturbance of function*; and in this sense the distinction between "organic" and "functional" is meaningless. Sir William Gowers used to impress on us the desirability of employing in preference the terms "structural" and "nutritional," and these are undoubtedly less objectionable. Already there are indications that in many ways the distinction is breaking down, but *at present it is still probably the best plan to continue to classify nervous diseases into these two main groups, for all must have a fairly clear idea of what is meant thereby.*

Hemiplegia.

Now, certain common errors of diagnosis arise from a failure to differentiate between the two. Hemiplegia, for an instance, is a nervous condition with which the practitioner is constantly being called on to deal, and, as a rule, a case of organic hemiplegia is not missed, especially if the onset is [illegible] unconsciousness. But, [illegible] accidents, the sudden [illegible] hemiplegia is *no* rarity. [illegible] d treatment of the two [illegible] diagnosis is essential.

The absence of the epigastric and abdominal reflexes on the affected side, and the presence of an [illegible] response, and in hysteria the abdominal reflex may be diminished, especially if there be any degree of cutaneous anæsthesia. Ankle clonus may help *us to reach a definite conclusion.* In organic cases it is rhythmical and the excursions are equal; in functional disease it is often highly irregular in time and extent, and the patient seems sometimes to be unconsciously endeavouring to start or to continue the phenomenon by pressing downwards with the forepart of the foot. A consideration of the nature of the paresis or paralysis may prevent an error in diagnosis. The hysterical patient very often shows the condition of defective inhibition of the antagonists. If he is asked, the affected arm being held *at a right angle at the elbow, to flex the forearm,* it will be found that the tendon of the antagonist of the movement—viz., the triceps—*springs into contraction before the flexor or biceps*; the antagonistic movement is not inhibited. The same phenomenon is often met with in the leg in a hysterical case. Put the patient on his face and ruling out organic neuritis at once, for one of the cardinal signs in true neuritis is diminution or absence of the tendon reflexes. Further, such cases rarely, if ever, exhibit any objective diminution or loss of cutaneous or deep sensibility, even in the periphery of the limb. What, then, is the explanation of these conditions described, *faute de mieux*, as "neuritis"? Some, there is no doubt, are instances of reflex neuralgia secondary to joint-changes of an arthritic nature, just as is the secondary "sciatica" of chronic changes in the hip-joint. Others, again, belong to the class of acroparæsthesia, a condition of usually bilateral painful paræsthesiæ in the arms and hands, often associated with "drawing" and stiffness of the fingers and of the arm musculature generally. The pathology of these states is possibly an arteriosclerosis of the vasa nervorum resulting in ischæmia of the nerve trunks. Other cases of "neuritis" certainly belong to the category of cervical rib. As a rule in these cases the patient complains of paræsthesiæ or pains which radiate down the forearm and are referred either to the radial or to the ulnar side of the hand and fingers, and it is of practical importance to determine the exact distribution of the paræsthesiæ for this reason, whether in all the fingers equally or in any particular finger or fingers. If the paræsthesiæ are in the middle finger mainly, the condition is much less likely to be a cervical rib than a true acroparæsthesia. Occasionally it is the first dorsal rib which gives rise to the symptoms, owing to some malformation or malposition. Still other cases, I believe, are comparable to trigeminal neuralgia and occipital neuralgia—i.e., they may, *ex hypothesi*, have for a pathological substratum a sclerotic affection of posterior root ganglia, just as in facial neuralgia the Gasserian ganglion is sometimes found at operation to be firmly bound by adhesions and to be diminished in size. There is also the wide and indefinite class of "rheumatic" affections, "rheumatic neuritis," "gouty neuritis," and so on. Some at least of these cases must be placed in the rubric of myositis, or neuro-myositis. Small nodular and tender points may be found on deep palpation in the muscles of the neck, shoulder girdle, or arm. Occurring as they do in the muscles of the neck, head, and scalp, they are one of the causes of headache and neuralgia that are too apt to escape recognition. Once more, "neuritis" occurs in those who suffer from occupation neuroses; in writer's cramp, telegraphist's cramp, and so on, the lesion, whatever its nature be, is central and not peripheral. There is no neuritis in the ordinary acceptation of the word. On the other hand, where intermittent pressure on a part is prolonged over months or years an occupation neuritis may arise with the consequent production of muscular atrophy, and often also with paræsthesiæ and sometimes objective loss of sensibility.

It is a platitude to say that fewer errors arise from ignorance than from incomplete examination, but the fact remains. If we endeavour to conduct a methodical and systematic investigation of all our cases, however complex they be, we shall soon learn to distinguish the essentials. Dr. Hughlings Jackson used to say that truth often arises from error, but never from confusion. Our errors, therefore, if we allow ourselves to learn from them and are capable of profiting by experience, lead us on to fuller knowledge and to a higher level of professional attainment.

An Address

ON

CANCER OF THE PROSTATE.

Delivered before the Nottingham Medico-Chirurgical Society on Dec. 4th, 1913,

By P. J. FREYER, M.A., M.D., M.Ch.,
LIEUTENANT-COLONEL, I.M.S. (R.); CONSULTING SURGEON, QUEEN ALEXANDRA'S MILITARY HOSPITAL; SURGEON, ST. PETER'S HOSPITAL.

Gentlemen,—I have in the first place to thank you for the honour you have paid me in inviting me here this evening to deliver an address before what is, I believe, one of the oldest medical societies in the kingdom. The subject I have chosen for my address is Cancer of the Prostate. Whether malignant disease is on the increase, or whether its recognition and registration are more accurate than formerly, the fact is patent that at the present time cancer prevails to an appalling extent amongst all classes of society. It is, then, the duty of each of us to contribute what we can to the common stock of knowledge, particularly in regard to its successful treatment. I have during the past 10 or 12 years had unusual opportunities of studying one of the most painful forms of this disease—viz., cancer of the prostate—so that I hope no apology is necessary in inviting your attention to this subject this evening.

It is now recognised that cancer of the prostate is a much more common disease than was formerly imagined. Writers vary much in their estimates of its incidence in comparison with that of benign hypertrophy of the gland. I have therefore had my note-books for the past 11 years examined and find that amongst 1276 cases of enlargement of the prostate for which I have been consulted in private practice during that period, of every one of which I have kept a careful note, 1105 were diagnosed as benign enlargement of advanced age, and 171 as cases of malignant disease of that organ, or 13·4 per cent. of the whole. These latter were all regarded by me as cancer, with the exception of one sarcomatous case. I have not attempted to go into the statistics of my hospital cases, as most of them were seen in the out-patient department, of which the records are imperfect; but I may say that I only remember having come across three or four cases of sarcoma of the prostate in my life, so that cancer is the predominant malignant disease of this organ.

Symptoms.

The symptoms of malignant disease of the prostate are similar to those of adenomatous enlargement of that organ of declining years, with other symptoms superadded. Let me recall briefly the symptoms of adenomatous enlargement, or, as it is commonly called, hypertrophy of the gland. They are: increased frequency of micturition, as a general rule more marked at night when the patient is lying down than in the day time when he is going about; hesitation or difficulty in starting the stream; diminution in the strength of the urinary flow, which, instead of being projected in the normal curve, falls almost directly downwards from the meatus by its own weight without any impetus from the bladder; the patient strains to propel the urine onwards, but his efforts have little or no effect in strengthening the stream, but on the contrary, the straining frequently arrests the flow temporarily; dribbling of urine towards the end of micturition; intermittency of the flow, as a rule due to the ball-valve action of the outgrowth in the bladder. These symptoms are unaccompanied by pain in the earlier stages of the malady; but, as the growth of the organ progresses, retained urine increases in quantity, causing over-distension of the bladder, and suprapubic pain of a dull, aching character sets in. These symptoms are, as a rule, very slow in their progress, gradually increasing in intensity over a period of years, and finally culminating in retention of urine, necessitating the introduction of the catheter for its relief.

Now, if a patient consults us, giving a history similar to that just described, and if he tells us that *the symptoms have run their course rapidly in a few months only* instead of as many years we should at once begin to suspect the existence of malignant disease of the prostate, particularly if his age be less than 50 or more than 70 years. If, in addition, we ascertain that during this short period of months the patient has suffered from progressive loss of flesh, a feeling of lassitude, debility, and undue fatigue, and failure of appetite; if, further, he suffers from pains in the sacrum, loins, one or both thighs, along the course of the urethra or in the perineum, and if he has pain and soreness in one or both buttocks when sitting down—pains which the patient will probably attribute to rheumatism, but which, no doubt, are due to pressure on the nerves—our suspicions become more pronounced. And if the typical cachexia be also present we may almost conclude, before making a physical examination of the prostate, that we have to deal with malignant disease of that organ. I find that in cases of this kind the tongue is not infrequently glazed, red, and dry, and that the urine is of a pale colour and low specific gravity—conditions that are met with in cases of ordinary benign enlargement of the prostate only when there has been long-continued backward pressure on the kidneys from great over-distension of the bladder, thus leading to incipient uræmia. It was formerly held, and I see that this idea is still clung to by many medical men, that profuse hæmaturia is more or less typical of cancer of the prostate, in contrast with adenomatous enlargement of that organ. Not only is this not the case, it is the reverse of the truth. Hæmaturia, even profuse hæmorrhage into the bladder, is not an infrequent incident in connexion with adenomatous enlargement of the prostate, particularly during the period of habitual employment of the catheter, whereas hæmorrhage is a very rare accompaniment of malignant disease of that organ, and, as a rule, only when the disease is far advanced and ulceration has taken place into the bladder or urethra, though occasionally cases are met with in which a few drops of blood are passed immediately before micturition or even independently of micturition, due no doubt to congestion or slight ulceration of the growth in the prostatic urethra. There may also be a slight show of blood immediately after micturition, which would indicate ulceration of the growth at the neck of the bladder or possibly of the trigone invaded by the growth.

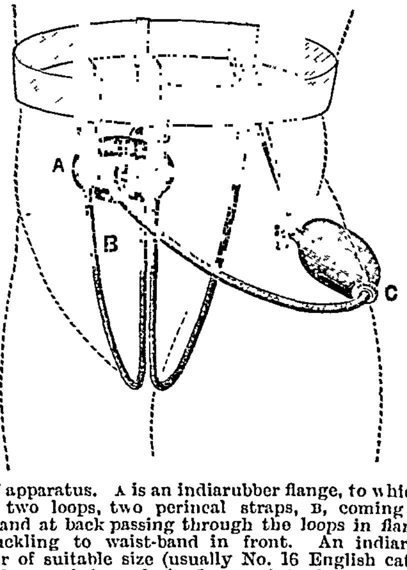
PHYSICAL EXAMINATION AND CHARACTERISTICS.

We now come to the physical examination of the prostate. The precaution having been taken to have the bowels well opened, the patient is placed in the supine position in bed or on a couch; the catheter is introduced to evacuate the bladder and ascertain the quantity of residual urine, for without the complete evacuation of the contents of the bladder no accurate estimate of the physical characteristics of the prostate can be made. And here let me remark that in the introduction of the catheter most useful information from a diagnostic point of view will frequently be obtained, for in the majority of cases of benign enlargement of the prostate no difficulty or pain is experienced in introducing a coudé catheter, the soft, spongy adenomatous walls of the prostatic urethra yielding before the gentle onward pressure of the instrument. When difficulty is met with in these cases it is due to distortion of the course of the urethra, as a rule caused by a median outgrowth of the gland in the bladder. In malignant growth of the prostate, on the other hand, the catheter meets with sudden resistance in the prostatic urethra, caused by its dense, hard, unyielding walls, and the procedure will be accompanied by pain and probably a little bleeding. The forefinger of the right hand, well lubricated, is introduced into the rectum, slowly and gently dilating the sphincter ani, and no attempt at palpation of the prostate should be attempted till the finger has passed in to its full length. Sweeping the finger from side to side across the anterior aspect of the rectum, if we encounter in the region of the prostate a generally rounded tumour, divided into two lateral parts by a furrow in the mesial line, the surface of the whole being smooth, the consistence being soft, or somewhat dense but elastic to the touch, and, most important of all, movable from side to side and from below upwards from the surrounding structures, we know that we have to deal with the ordinary adenomatous enlargement of the gland amenable to enucleation. This examination will be painless, attended merely by the discomfort due to the presence of the finger in the rectum. Unless the patient be very stout, by placing the fingers of the other hand on the abdomen above the pubic arch and approaching the fingers of the two hands together we can feel the enlarged gland and move it about, somewhat like a subinvoluted uterus, but to a less extent.

Let us now contrast the characteristics of adenomatous enlargement of the prostate just described with those of cancer of that organ in a more or less advanced stage. In carcinomatous enlargement we find that the prostate is hard—of almost stony hardness in some cases—with occasionally soft, boggy patches, due to broken-down tissue. The outline will, as a rule, be very irregular, the lobes being ill-defined and the median groove partially or wholly obliterated. The surface will, as a rule, be nodular or ridged with deep intervening irregular furrows. In a few instances, however, I have found the cancerous prostate smooth and rounded like an ivory ball. Not infrequently we find that the lobes are unequally affected, or that the disease for the time being is entirely confined to one lobe. But the most important feature for diagnostic purposes is the immobility of the prostate from the surrounding structures. The palpation of the prostate in the course of the examination is attended by much pain. Bimanual examination will emphasise these features, but, as a rule, no great prominence of the organ will be felt in the bladder, the growth invading the adjacent tissues and extending to the vesiculæ seminales and the trigone, but scarcely ever presenting any marked prominence in the bladder. When the bladder is opened suprapubically in a case of this kind, as we shall find later on will frequently be necessary for the purpose of establishing a permanent fistula, we generally find that the inner orifice of the urethra is contracted and undilatable, situated in the centre of a hard, nodular mass, scarcely prominent in the bladder, and feeling like an unripe custard-apple. If the disease be advanced the lymphatics, particularly the iliac, inguinal, and lumbar glands, will be involved, and sometimes I have found the surface of the tumour studded beneath the rectal mucous membrane with tiny hard glands, like sago grains. I seldom employ the cystoscope in such cases, as its introduction is difficult and painful, and, as a rule, unnecessary for diagnostic purposes.

TREATMENT.

Now, it is quite impossible to enucleate suprapubically, or by any other method effectually remove, a cancerous prostate in this advanced stage. We can only confine ourselves to ameliorative treatment, the catheter being employed as long as it can be introduced without difficulty or pain. When its use is attended by pain, difficulty, or bleeding, we must have recourse to suprapubic cystotomy, with a view to establishing a permanent fistula through which the urine flows into a urinary apparatus, the patient being thus enabled to go downhill with the least possible discomfort. I need scarcely add that when the malady is accompanied by pain the free administration of opiates, particularly morphia hypodermically, should be had recourse to. This simplified apparatus (see figure) which I show you is that which I now employ. It is manufactured for me by Weiss, and has been brought to its present state of comparative perfection by the gradual improvements on the more clumsy apparatus formerly employed, at the suggestions of patients themselves rather than through any inventive genius on my part.



Sketch of apparatus. A is an indiarubber flange, to which are affixed two loops, two perineal straps, B, coming from waist-band at back passing through the loops in flange A and buckling to waist-band in front. An indiarubber catheter of suitable size (usually No. 16 English catheter gauge) is passed through the flange A into the bladder; the other end is attached to urinal, C, which is suspended from the waist-band about 3 inches below the level of the opening into the bladder.

Radiotherapy is useless in cancer of the prostate, a statement that is borne out by the results, or rather want of results, in patients from my own practice that have been submitted to this treatment, as in those of others that have come under my notice.

We must be extremely reserved in our prognosis as to the period of longevity in cases of malignant disease of the prostate. Some patients go downhill rapidly in the course of months, as a rule through general infection of the system; others live for years, some for many years, in comparative comfort, going about their business as usual and able to take active exercise. Many of them put on flesh rapidly, strange to say, after the establishment of the suprapubic fistula, probably mainly due to the relief to the backward pressure on the kidneys, a circumstance that should decide us not to postpone the establishment of the fistula for an unduly long time.

I am of opinion that a prostate attacked by malignant disease previous to its undergoing adenomatous enlargement is rarely, if ever, capable of enucleation suprapubically by my method of dealing with hypertrophy of the prostate or of being effectually removed by any other method, for the simple fact that by the time the symptoms declare themselves the disease has already passed through the capsule of the gland and invaded the adjacent structures.

When, however, cancer supervenes on, or is due to degeneracy in, a previously enlarged adenomatous prostate, as we now know very frequently happens, and the patient comes under observation whilst the prostate is still movable and the adjacent structures uninvolved—that is to say, whilst the malignant disease is still confined within the capsule of the gland—the prostate can, and should be, enucleated, my experience of operation under such conditions being most favourable, as the details of the cases that I shall presently place before you will show. It will sometimes be impossible to give a definite diagnosis of malignancy in such cases before the removal of the prostate, though the presence of hard nodules in the gland, combined with the rapid progress of the symptoms, will arouse strong suspicions in the surgeon's mind, suspicions which, I need scarcely add, should be communicated to the patient's relatives before operation is undertaken.

NOTES OF CASES.

CASE 1.—This patient, aged 63, I saw in consultation with Dr. Horace Duncan, London, on March 21st, 1904, for prostatic symptoms which had existed two years. A month previously he had retention of urine; a silver catheter was introduced and tied in for 48 hours by another surgeon. After this the catheter was passed night and morning. For the last few days the catheter had been abandoned, but there was intense frequency of micturition day and night. I found 6 ounces of residual urine containing pus and mucus. The prostate was found enlarged to the size of a tangerine orange, hard at parts, but movable from the surrounding tissues. I considered the case one of malignant disease of the prostate, but felt that the gland could be enucleated.

On March 26th, Dr. Duncan assisting, I enucleated with considerable difficulty the prostate, which, however, came away entire, leaving a smooth cavity behind. The prostate, which weighed $1\frac{1}{4}$ ounces, was dense throughout, with hard nodules at the base and left side.

Pathological report.—"The prostate shows early malignant changes. The condition is not advanced, and it is possible that all the malignant growth may have been removed."

Everything went well with the patient till April 6th, when sudden dyspnœa and collapse set in, due evidently to thrombosis of the left lung. Dr. Cæsar Hawkins then attended in consultation. Next day the patient was apparently out of danger, and continued to do well till April 14th, when hæmoptysis set in, from which he was much exhausted. After this he steadily improved. On April 19th urine was passed by the urethra and the suprapubic wound was dry next day. On June 11th, 1905, I had a note to the effect that this patient was in perfect health, untroubled by any urinary symptom; he had grown stout and strong since the operation. In January, 1906, he had some hæmaturia, thought to be due to lifting a heavy weight, and this was followed by frequency of micturition and scalding during the act. On Jan. 22nd, assisted by Dr. Duncan, I made a cystoscopic examination. There was no recurrence of the growth, merely local congestion and pin-head ulcers on the left side of tl [illegible] of subacute cystitis. This was [illegible] bladder with weak solutions of [illegible] internal administration of urotropin, &c. The symptoms passed away in a few weeks. Since then he has been troubled by no urinary symptoms. I meet this patient socially from time to time; he paid me a friendly visit a fortnight ago. He is now, nearly 10 years after operation, in excellent health, able to enjoy life, and untroubled by any urinary symptom.

CASE 2.—This patient, aged 69, who consulted me on Sept. 21st, 1904, on the advice of Dr. E. J. Cave, of Bath, had suffered from prostatic symptoms for four or five years; the catheter had been employed for three years, and during the last 18 months the patient was entirely dependent thereon. His penis had been amputated eight months before for epithelioma. I passed a coudé catheter No. 7 with some difficulty and drew off 14 ounces of urine containing pus and mucus. The prostate as felt per rectum and bimanually was of the usual adenomatous type and presented no signs of malignancy. On Sept. 26th I enucleated the prostate, which presented a gutter-shaped outgrowth in the bladder, entire, some difficulty being experienced owing to adhesions along the neck of the bladder. It weighed 2½ ounces. The prominent outgrowth in the bladder, as also the main portions of both lateral lobes towards the triangular ligament, were adenomatous, but these two portions were united by a narrow neck composed of a band of carcinomatous tissue of the hard scirrhous type, encircling the urethra at this situation. The suprapubic wound was closed on Oct. 21st, after which date his urine was retained and passed naturally.

In November, 1905, I removed a small warty growth from his right temple, which proved to be an epithelial growth. Beyond this he had no recurrence—if recurrence it was—of malignant disease. I heard periodically from this patient and saw him on several occasions, for he was naturally anxious lest a recurrence of the malignant disease should take place, but to the day of his death, which took place on June 8th, 1910—some six years after the removal of his prostate—suddenly from heart disease, he was untroubled by any urinary symptoms.

It is impossible to say whether the cancer of the prostate arose concurrently with the epithelioma of the penis or if it was secondary to this affection. If the latter, then it is the only instance that has occurred in my practice in which cancer of the prostate supervened on cancer of any part more distant than the rectum, though I have come across several instances in which the prostate was invaded secondarily to the rectum.

CASE 3.—On Oct. 20th, 1904, I saw in consultation with the late Sir Alfred Cooper a man, aged 64, who had for two years suffered from gradually increasing frequency of micturition so that latterly he had to urinate every two hours by day and night, in spite of the fact that he employed the catheter every night and frequently in the morning. There was a sense of fulness and uneasiness in the perineal region For some months he had suffered from a gleety discharge which came from the prostate, and for which there was no venereal cause. There was no stricture of the urethra. He had never seen blood either in the discharge or in the urine. I drew off five ounces of residual urine containing muco-pus. Per rectum the prostate felt enlarged to the size of a large [illegible] bilobed, with hard nodules in its [illegible]: it could not be felt bimanually, [illegible] enlarged. Cystoscopic examina[illegible]rominence of the prostate in the bladder. The inner orifice of the urethra was irregular instead of presenting the usual V or U-shaped slit characteristic of moderately enlarged adenomatous prostate. Till recently the patient had led an active life apart from his profession in hunting, shooting, &c. Malignant disease of the prostate was feared, but as the gland was movable in regard to the adjacent structures I advised operation. This I accomplished on Nov. 12th, Sir A. Cooper assisting, with some difficulty, but the prostate was enucleated entire in its capsule, weighing 1½ ounces.

Pathological report.—"This tissue cut through the hardest part of the prostate is undoubtedly malignant. It is a columnar-celled cancer of the scirrhous type—i.e., the tubules lie in alveolar spaces within the dense fibrous stroma. Solid epithelial masses exist in the latter quite apart from the tubules, thus proving that the active proliferation of the lining epithelium of the latter is a malignant process."

The patient made an uninterrupted recovery. He passed some urine naturally on Nov. 26th, and entirely in this way on and after Nov. 29th. On Dec. 10th he left the surgical home able to retain and pass his urine as well as he ever did. Since then he has had no urinary symptoms and has continued in active persuit of his profession. On June 16th, 1913—nearly nine years after operation—he wrote me: "I am happy to say I am well and able to enjoy life. Old age is so far as I am concerned unaccompanied by any of the discomforts so frequently accompanying the latter years of life." And three weeks ago I again heard from him that he was quite well.

CASE 4.—This patient, aged 79, was admitted to St. Peter's Hospital on May 7th, 1906, with intense frequency of micturition and continual dribbling of alkaline urine, which had lasted two months, previous to which he complained of no urinary trouble. The bladder being distended to the umbilicus, a catheter was introduced and slow drainage adopted for three days After that the catheter was passed at intervals, the patient being unable to void any urine naturally. The prostate was enlarged, flattened from side to side, hard throughout, nodular at parts, and only partially movable. The glands in both groins were enlarged and hard. On May 16th I enucleated the prostate entire in its capsule with ease, the operation lasting three minutes only.

Pathological report.—"The prostate weighed 2 ounces, was very hard at parts, and microscopic sections showed that the enlargement was of a malignant character."

The operation was well borne. The patient passed some urine naturally on June 4th, and the suprapubic wound was closed on June 14th. He was discharged on June 17th. On June 30th he presented himself at the hospital, able to retain and pass his urine naturally as well as he ever did. There was no residual urine, the bladder emptying itself completely. On Nov. 20th, 1913, seven and a half years after the operation and in his eighty-seventh year, the patient writes: "I am pleased to say I am in the best of health and have been ever since my operation. If you like to see me I will willingly come if you name a time convenient to yourself." I saw this patient on Nov. 24th in excellent health.

CASE 5.—On May 10th, 1907, I was consulted by a man, aged 64, who for two years had suffered from intense frequency of micturition, with intermittency of the urinary stream. Latterly the urine dribbled away at night, so that he had to wear a urinal. [illegible] he had had a paralytic stroke with [illegible] possibly this might have le[illegible] muscles behind He had suffered from gout for ten years, and some of his joints were thickened. There was no pain or hæmorrhage. I drew off 9 ounces of residual urine which was fairly clear, with a trace of albumin. The prostate was fairly enlarged per rectum, bilated, smooth, and fairly movable, but the right lobe was distinctly hard and nodular. It was scarcely felt bimanually. No glands could be felt enlarged. His general health was indifferent. Malignancy was suspected.

On May 15th I enucleated the prostate entire with considerable difficulty owing to its adhesion to the adjacent structures The gland was of the size of two walnuts placed side by side, and distinctly hard at parts.

Pathological report.—"Over a considerable area of the section the tissue of the prostate is infiltrated by irregularly proliferating glandular spaces lined by actively multiplying epithelium. The appearances are those of adeno-carcinoma in an early stage."

The suprapubic wound was slow in healing, but on and after July 7th the whole of the urine was retained and passed naturally. He has since remained in fairly good health, and on July 11th, 1913—more than six years after operation—he wrote: "My grateful thanks to you; my bladder condition is quite satisfactory."

CASE 6.—This patient, aged 63, consulted me on April 10th, 1908, alarmed because he had passed much clotted blood during the previous few days. I had seen him once before on Jan. 2nd, 1904, for prostatic symptoms. He then had 3½ ounces of residual urine, but the prostate was scarcely enlarged, so I advised him to use the catheter once daily on going to bed. This he had continued to do ever since, thus getting a good night's rest as a rule. I now found that he had 6½ ounces of residual urine, which contained some blood and pus; the catheter was gripped tightly in passing through the prostatic urethra. The prostate was considerably enlarged, dense throughout, and hard on the left side, but it was fairly movable from the adjacent structures. I came to the conclusion that the case was one of adenomatous enlargement of the prostate degenerating into malignancy.

On April 13th I opened the bladder suprapubically, Mr. C. Carter Braine giving the anæsthetic. The right lobe of the prostate was felt somewhat prominent in the bladder like a papillomatous growth. The gland was enucleated entire, some difficulty being encountered owing so its being unusually adherent to the surrounding tissues.

Pathological report.—"The right lobe shows a lot of interstitial hæmorrhage in its upper pole, and radiating from this is a good deal of inflammatory infiltration. Most of the gland tissue in this lobe is benign, but degenerate in one tubule of the right lobe, the epithelium being several layers in thickness. The left non-hæmorrhagic lobe is the more important, for in it a few of the tubules have taken on undoubted malignant cancerous changes, and this is surrounded with much inflammatory infiltration."

No unfavourable symptoms supervened on the operation, and the case ran the usual course. On May 19th the patient left the surgical home quite well, able to retain and pass his urine as well as ever.

I did not see the patient again till June 5th, 1912, more than four years after. He had kept perfectly well for more than three and a half years, but in January, 1912, he had a nervous breakdown, for which he was under the care of a nerve specialist. During the last three months he had some increased frequency of micturition, and two days previously he had passed a little blood. I made a cystoscopic examination without an anæsthetic, a No. 22 cystoscope passing quite easily. There was no stone and no recurrence of the growth, but the bladder was congested at the base and there were minute particles of phosphates adherent to the mucous membrane. The cystitis yielded to the usual remedies.

CASE 7.—On Jan. 4th, 1910, I was consulted by a man, aged 57, who had just arrived from abroad for that purpose on the advice of his medical attendant For some years he had suffered from rheumatism, the pains affecting mainly his thighs. Two years previously he had felt stiffness in his right groin. In April, 1909, he had intense frequency of micturition with pain in the same groin and deeply in the perineum. His medical attendant had examined him in November of that year, and found a hard swelling in the left side of the prostate. The patient was sent to consult a urinary specialist, who did not consider the case one of malignancy, but advised removal of the prostate. I drew off 6 ounces of residual urine, which was normal in quality. The right lobe of the prostate was somewhat enlarged, soft, and movable; the left lobe was much enlarged, contained a hard nodule, and was only partially movable from the adjacent structures. I regarded the case as one of cancer of the prostate, but considered that the gland could be enucleated entire though rather adherent on the left side. The patient's general health was good.

On Jan. 6th I enucleated the prostate entire. The enucleation was fairly easy all round the gland and from the triangular ligament, but difficult from the trigone, to which it was very adherent. The operation was well borne, but was followed by much nausea and vomiting for a couple of days.

Pathological report.—"Both sections of this organ show it to be the seat of malignant disease of carcinomatous nature. The malignant cells lie in long columns and alveolar spaces in the fibro-muscular stroma."

The suprapubic wound was healed towards the end of the month and urine was passed naturally, but the wound broke down after a few days, leaving a fistula which repeatedly healed up and broke down again. After consultation with my colleague, Mr. F. Swinford Edwards, the patient was anæsthetised on March 11th, the fistula incised and enlarged, and the inner orifice of the urethra, which was contracted (owing to the adhesions of the prostate to the trigone already described), thoroughly dilated by the finger point. A full-sized catheter was tied in for 11 days. The wound was quite dry on March 28th, and on April 7th the patient left for the country in good health, able to retain and pass his urine normally. I have seen and examined this patient once a year since; he has always been in good health and untroubled by any urinary symptom, and there has been no recurrence of the growth. On Dec. 22nd, 1911, he wrote: "I am keeping wonderfully well." His wife wrote, June 20th, 1912: "I am thankful to say my husband has had a splendid winter and has been better than for years." And on Feb. 15th, 1913, the patient wrote: "I am wonderfully well. I have had a busy winter, working in my office from 9 A.M. to 7 P.M. daily."

CASE 8.—On May 22nd, 1912, I saw in consultation with Dr. H. A. Des Voeux, a man, aged 68, who had suffered from the usual prostate symptoms for three years. Four days previously a catheter had been passed and three pints of residual urine drawn off. The catheter had been used twice daily since then. There was no loss of flesh, appetite, or energy, and no pains were complained of. The prostate was much enlarged, and presented the general aspects of a dense adenomatous enlargement, except that the left lobe was hard and nodular, and that the organ was only partially movable from the surrounding structures. I diagnosed the case as one of adenomatous enlargement of the prostate degenerating into malignancy, and advised that an attempt should be made to enucleate the organ, failing which, that a permanent suprapubic fistula should be established. I may mention that another urinary specialist had been consulted two days previously, and had pronounced the case as one of inoperable cancer of the prostate, and that in consequence the patient and his family were in great distress.

On May 24th, Dr. Des Voeux assisting, I enucleated the prostate as a whole, with some difficulty owing to adhesions on the left side. The operation was well borne; there was no shock and scarcely any bleeding, and the recovery presented no unusual features. Some urine passed per urethram on June 7th, and on June 11th 11 ounces were passed at one effort. The wound was dry on July 25th, on and after which date urine was passed with ease in a full stream, and retained normally. On July 5th the patient motored home, a distance of some 70 miles.

Pathological report.—"The organ as a whole was much enlarged, the enlargement affecting the right lobe more than the left. The right lobe and so-called middle lobe were smooth and soft, but the left lobe was hard, nodular, and fibrous. Sections were cut of all three portions, and also of the central tissue in the neighbourhood of the verumontanum. The great mass of the tissue has the structure of a simple adenoma, and consists of fibro-muscular stroma enclosing numerous large and often dilated alveoli lined by cubical epithelium. In the case of the left lobe, however, the anterior portions show evident invasion of the stroma by small masses and columns of epithelial cells, whose characters and arrangement leave no doubt that this lobe has taken on a malignant nature and has become a carcinoma of the hard or scirrhus type."

I have seen this patient on three occasions since. He is in perfect health, untroubled by any urinary symptom, and can walk and shoot as well as he could in his younger days. Locally there is no trace of recurrence of the disease. On Nov. 7th, 1913, he wrote: "I am really feeling very fit and have been doing a lot of shooting, also fishing, in Norway."

RESULTS OF OPERATION.

Did time permit I could give details of other cases of the same description. Those already described, however, amply prove that if we can enucleate the prostate entire whilst the malignant disease is still confined within its true capsule, we can with every confidence look forward to a perfect cure; and the operation is attended by no more danger than that attached to the enucleation of a simple *hypertrophied growth of the organ.*

I could give you details of other cases in which, I regret, the results were not so satisfactory, the malignant disease recurring locally in the adjacent structures, after more or less lengthened periods, leading eventually to contraction of the urethra at the neck of the bladder, necessitating the employment of the catheter or the establishment of a permanent suprapubic fistula. In these cases the disease had evidently invaded the surrounding tissues before the enucleation of the prostate. If *the prostate can be enucleated entire, even when* unusually adherent to the surrounding tissues, I confess that I feel a strong inclination to accomplish this, and have never regretted doing so. Even should the disease recur, it is a great consideration for the patient to be able in the interval to urinate normally, thus deferring for months or even years the establishment of a permanent fistula, which can always be had recourse to when necessary.

MALIGNANT DEGENERATION OF BENIGN PROSTATIC GROWTHS.

I have in my remarks hitherto dealt only with cases of cancer of the prostate diagnosed as such, or in all probability as such, before operation. It is, however, held by many writers that a very considerable proportion of enlarged prostates regarded as benign adenomata at the time of operation turn out on pathological examination to be of a cancerous nature. This view was, I believe, first propounded by two eminent French authorities—Albarran and Hallé. These gentlemen having examined microscopically a series of 100 prostates, which had all the appearance of being benign, found amongst them 14 cancers, with all the intermediate histological appearances between the pure adenoma and the epithelioma, thus giving rise to the view that the adenomatous transformation of the prostate *in advanced age is, in a number of* instances, the primary stage of a malignant degeneration. Now, I have had no systematic pathological examination made of what I regarded as benign enlargements of the prostate, considering this as unnecessary except in cases where there was some doubt in my mind as to the nature of the growth. But if the tenets of Albarran and Hallé be applied to the series of more than 1100 supposed benign prostates removed by me in the past 12 years it would indicate that, unknown to myself, I had removed amongst these no less than some 150 carcinomatous prostates. Well, I cannot trace amongst the subjects of the whole of my operations for supposed benign growths of the prostate more than half a dozen instances in which cancer subsequently afflicted these patients. The cancer in these cases supervened at lengthened periods after the operation in organs distant from its site, and the proportion can scarcely be regarded as greater than would normally occur in patients the average age of whom at the time of operation was 69 years. Far be it from me, who have no pretension of being an expert pathologist, to call in question the views of such eminent men as Albarran and Hallé; but if their tenets be true, then my operation of enucleation of the prostate for radical cure of enlargement of that organ, now practised all over the world, must be credited with *a far greater benefit to humanity* than I could have anticipated.

JACKSON'S PERICOLIC MEMBRANE:

ITS NATURE, CLINICAL SIGNIFICANCE, AND RELATION TO ABNORMAL MOBILITY OF THE PROXIMAL COLON.

BY JOHN MORLEY, CH.M. VICT., F.R.C S. ENG.,
HONORARY SURGEON, ANCOATS HOSPITAL, MANCHESTER; LECTURER IN CLINICAL ANATOMY, MANCHESTER UNIVERSITY; ASHBY RESEARCH SCHOLAR.

DURING the past year six well-marked examples of this much-discussed condition have come under my observation at Ancoats Hospital, and it is thought that they throw considerable light on the true nature of the membrane. Before describing these cases and discussing their significance some explanatory remarks are necessary.

In a recent article[1] Jabez North Jackson has described how he first encountered the *pericolic membrane, and came to regard it* as a definite pathological lesion. In 1908 he operated on a woman who suffered from chronic pain in the right abdomen, and at different times had had her appendix and right ovary removed without relief. On opening the abdomen he found a curious filmy transparent membrane extending from the parietal peritoneum of the right flank across the front of the ascending colon to its inner side, and continuous above with the transverse mesocolon. He says, "The membrane did not strike us as analogous to an adhesion in any sense. It looked instead like a new adventitious vascularised investing layer of peritoneum." Shortly after this he came across a precisely similar membrane in a post-mortem examination, which was described by Hall in Jackson's original paper,[2] and gives us the classical picture of the condition. From a point at the level of the hepatic flexure to three inches above the caput coli there spread from the parietal peritoneum over the lateral margin and front of the colon to its medial longitudinal muscular band a thin vascular veil, in which long, straight, unbranching blood-vessels coursed, most of which were parallel with each other. The direction of these parallel vessels was downwards and inwards from the parietal attachment to the ascending colon. It will be seen that this description would apply with considerable precision to all the cases described in the present paper.

Hall considered that the membrane he described was "peritoneum loosened from its close connexion to the abdominal wall and colonic surface by some serous exudate, after which the particular vascularisation and connective tissue banding has occurred as a chronic reaction to irritative influence." In his last paper Jackson[1] states that he has since met with cases of pericolic membrane with wide variations in their attachment, but similar to the above in their general character, and he believes that, while some may be of congenital origin and others the result of colitis, the *majority are due to* a chronic lymph stasis as suggested by Hall. His statement that "so far we know of no observation of this condition in infancy or childhood" is of interest in view of the fact that two of the cases to be described below were aged 5 months and 8 years respectively.

During the last year or two Jackson's membrane has been the subject of many papers, mostly in the American journals, and the most divergent views have been expressed as to its origin. To quote only a few of the more important authorities, Gerster[3]

CASE 6.—This patient, aged 63, consulted me on April 10th, 1908, alarmed because he had passed much clotted blood during the previous few days. I had seen him once before on Jan. 2nd, 1904, for prostatic symptoms. He then had 3½ ounces of residual urine, but the prostate was scarcely enlarged, so I advised him to use the catheter once daily on going to bed. This he had continued to do ever since, thus getting a good night's rest as a rule. I now found that he had 6½ ounces of residual urine, which contained some blood and pus; the catheter was gripped tightly in passing through the prostatic urethra. The prostate was considerably enlarged, dense throughout, and hard on the left side, but it was fairly movable from the adjacent structures. I came to the conclusion that the case was one of adenomatous enlargement of the prostate degenerating into malignancy.

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I have seen this patient on three occasions since. He is in perfect health, untroubled by any urinary symptom, and can walk and shoot as well as he could in his younger days. Locally there is no trace of recurrence of the disease. On Nov. 7th, 1913, he wrote: "I am really feeling very fit and have been doing a lot of shooting, also fishing, in Norway."

RESULTS OF OPERATION.

Did time permit I could give details of other cases of the same description. Those already described, however, amply prove that if we can enucleate the prostate entire whilst the malignant disease is still confined within its true capsule, we can with every confidence look forward to a perfect cure; and the were cystic and each of the size of a duck's egg; they were removed. *The cæcum could* be lifted up 6 inches out of the abdominal wound with ease; it was not dilated. The appendix was normal; no Lane's ileal band. A well-marked Jackson's membrane, similar to those in the previous cases, stretched from the right parietes on to the anterior aspect of the ascending colon in its upper part; it was continuous with the great omentum above the hepatic flexure, which was very mobile and not attached to either liver or kidney. Though lax and long, the Jackson's membrane appeared to form the chief support of the ascending colon, and as it caused no kink it was not removed. Both kidneys were remarkably mobile. Recovery was uneventful.

CASE 4.—The patient, a female infant, aged 5 months, was admitted on April 30th, 1913, with acute intussusception of 24 hours' standing. The child was breast-fed and previously healthy.

Operation.—Ether anæsthesia; right rectus incision. An ileo-cæcal intussusception was found, with the apex in the descending colon. It was easily reduced from below, and the gut was quite viable. *There was no ileal band*, and the ascending colon had a long, free mesocolon. The attachments of the hepatic flexure were so lax that it could readily be drawn out of the wound. A typical Jackson's membrane was present continuous with the right border of the great omentum across the ascending colon; it was adherent to the right parietal peritoneum, though not extensively, and also to the anterior tænia of the ascending colon. The membrane consisted of two layers of peritoneum, and the vessels in it showed the usual parallel arrangement and ran downwards and inwards to the colon. In order to prevent the undue mobility of the gut from allowing a fresh intussusception, and with a view to imitating the normal peritoneal fixation, the cæcum and ascending colon were sutured back into the loin by three thread sutures about an inch apart, each picking up the postero-lateral longitudinal tænia, and fixing it to the parietal peritoneum as far back as possible. Recovery was normal.

CASE 5.—*The patient, a boy aged 8 years, was admitted* on Sept. 8th, 1913, with signs of tuberculous peritonitis.

Operation.—Spinal anæsthesia; right rectus incision. The abdomen contained a good deal of clear, pale yellow fluid. No definite tubercles could be seen. The lower ileum, cæcum, and ascending colon were very mobile and mounted on a common mesentery. A well-marked Jackson's membrane with the usual fine, parallel blood vessels, and here and there little flakes of fat, bridged across the right lateral paracolic fossa. It was adherent to the anterior tænia coli as far down as the base of the appendix. It was causing no kink and afforded the main support to the ascending colon and cæcum. It was therefore not divided. Its continuity with the great omentum above, across the front of the hepatic flexure, was readily demonstrated. The appendix was free and looked normal, but as the lymphatic glands into which it drains were enlarged it was removed. The colon was not fixed. Recovery was normal.

CASE 6.—*The patient, a multiparous woman, aged 42, was* admitted on Sept. 22nd, 1913, with a history of repeated attacks of biliary colic and transient jaundice for the past 17 years. She had had to take aperients regularly all her life, and constipation had been worse the last 12 months. On examination *there was tenderness over the gall-bladder* and also over the right iliac fossa.

Operation.—Ether anæsthesia, with local infiltration with eucaine and adrenalin; right rectus incision. The gall-bladder was packed with small stones. The cæcum and ascending colon were very mobile and mounted on a long mesocolon continuous with the mesentery. The cæcum could be held up 6 inches above the skin of the abdomen. It was somewhat dilated and thin-walled. The appendix was normal. The right kidney was not movable. A Jackson's membrane, very similar to those described in the preceding cases, extended from the parietal peritoneum in front of the lower pole of the right kidney on to the front of the ascending colon and cæcum, to the anterior tænia of which it was attached. *This membrane was continuous with the right* margin of the great omentum across the front of the hepatic flexure. It was not kinking the colon in any way, and so it was not divided. After removal of the gall-stones and drainage of the gall-bladder, the ascending colon was sutured back into the loin by interrupted sutures of linen thread, after the manner recommended by Coffey[5] (Fig. 2), care being taken to pick up the right longitudinal tænia in *the sutures. Recovery was uninterrupted*, and five weeks after operation the patient was having daily motions of the bowels without taking aperients.

The Nature of Jackson's Membrane.

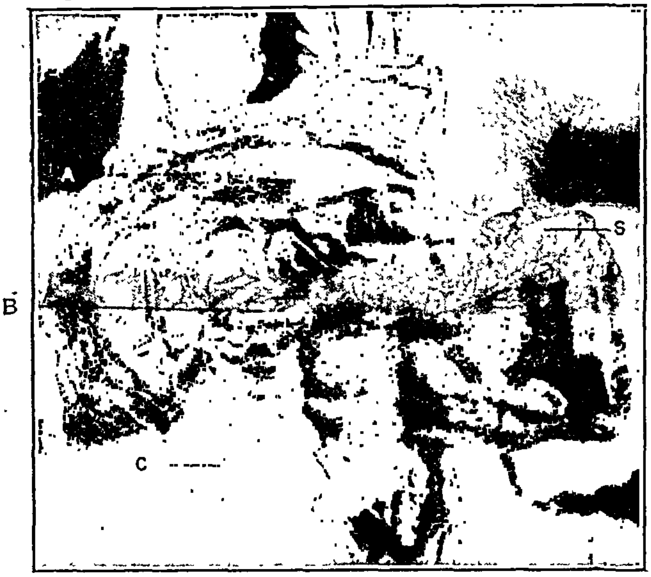
A study of these six cases leads one to certain definite conclusions as to the nature of Jackson's membrane. The remarkably constant form of the membrane met with in all the cases, and the close analogy shown to Jackson's original description, prove that we are dealing with a quite definite anatomical condition. The age of two of the patients (viz., 5 months and 8 years respectively) affords strong evidence of the congenital origin of the membrane, and its continuity with the great omentum throws light, as we shall see, on its mode of formation during intra-uterine life. Its *congenital origin finds further support in the filmy* transparent nature of the membrane. The theories of inflammatory origin must be considered quite discredited. It is not denied that adhesions due to colitis may be met with in this region. Such inflammatory bands, however, are formed of dense, tough, and opaque fibrous tissue, and bear no resemblance to the membrane here described. It is *surely time that surgeons recognised the differences*, usually so obvious, between congenital and inflammatory peritoneal adhesions.

One only of the six patients presented simply the classical symptoms associated by Jackson with the condition—viz., chronic pain and tenderness in the right iliac fossa, with constipation. The remaining five cases came to seek surgical aid for conditions so various as acute perforative appendicitis, cancer of the pylorus, acute intussusception, tuberculous peritonitis, and gall-stones. How, then, can we unify the series of cases? Or must they be regarded as a chance collection, and Jackson's membrane as an accidental and unimportant anatomical variation of the peritoneum?

The one noteworthy feature that the cases present in common besides the membrane is persistence of the ascending mesocolon, with resulting abnormal mobility of the cæcum and ascending colon. Furthermore, the major lesions in all the cases (excepting the intussusception, where the mechanical importance of the intestinal mobility is sufficiently obvious) fall into a group of abdominal diseases that we are coming to regard as frequent secondary results of chronic intestinal stasis, with consequent absorption of toxins from the proximal colon. These considerations led one to suspect that an abnormal mobility of the colon, and consequently inadequate adaptation of the individual to the upright posture, had predisposed these patients from birth to intestinal stasis and its results; and it was thought probable that the combination of mobility of the proximal colon with Jackson's membrane might prove to be a persistence of a primitive developmental stage, comparable with such deformities as hare-lip and imperforate anus.

Further light on this subject and on the phylogenetic fixation of the proximal colon as an adaptation to the upright posture was sought by investigating the embryology of the region (in its later stages, after rotation of the midgut loop) and its comparative anatomy. In the course of an investigation into the peritoneal fixation of the colon in 36 human fœtuses of 5 to 9 months' growth (which will be the subject of a later communication), four examples of parieto-colic folds in the region of the hepatic flexure were observed which were essentially analogous to Jackson's membrane. In each case the continuity of the fold with the great omentum could be shown, and each presented an unusual persistence of the ascending mesocolon. In the other 32 fœtuses it was not possible to ascertain precisely how far the great omentum extended to the right in the region of the hepatic flexure, though the appearances suggested that it had done so in every case, and then became lost through fusion with visceral and parietal peritoneum.

FIG. 2.



Viscera of macacus rhesus, showing large omentum (upturned) adherent only to ascending colon, hepatic flexure, and extreme right of transverse colon. The omentum is also adherent to parietal peritoneum to right of the hepatic flexure. A, Upturned omentum. B, Omentum adherent to ascending colon and hepatic flexure. S, Splenic flexure. C, Cæcum.

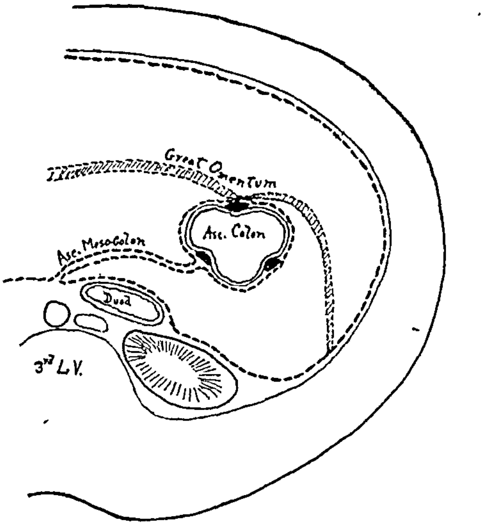
Much more definite evidence on this point was found by an examination of the cola of four monkeys and a chimpanzee (macacus rhesus (Fig. 2), macacus erythræus, cercopithecus rufo-virides, hylobates variegatus, and anthropopithecus troglodytes Kooloo-Kamba). These animals illustrated various stages in the phylogenetic transition from the pronograde mobility to the orthograde fixation of the colon. In all cases the colon was fully rotated and showed the normal human disposition in the abdominal cavity, but (except in the chimpanzee) much less peritoneal fusion than in man. In the more pronograde animals the ascending and descending mesocolon persisted. The great omentum was not fused to the transverse colon or mesocolon except at its extreme right, towards the hepatic flexure, where adhesions to the longitudinal tæniæ coli began. (Fig. 2.) It was firmly fixed to the ascending colon along the anterior and lateral tæniæ (but not to the saccules between these), and passing further to the right was attached to the posterior parietal peritoneum in the right loin near the lower end of the kidney.

The chimpanzee showed the normal human fixation of the colon, with complete loss of ascending and descending mesocolon. The great omentum extended to the right across the front of the hepatic flexure, to which it was fused, and beyond this point was fixed to the parietal peritoneum on the outer side of the right kidney. In the right lateral paracolic groove an adherent prolongation of omentum containing fat was continued down for two inches along the outer side of the ascending colon.

These observations led to the conclusion that the great omentum has originally in the human fœtus a wider extent to the right and a more important rôle in the fixation of the colon than is usually attributed to it. Fixation of the colon, after rotation of the midgut loop, would appear to begin at the hepatic flexure through the agency of the great omentum. By the same omental sheet adhering to the parietal peritoneum the ascending colon and cæcum are held back into the loin during the descent of the cæcum. The fusion of ascending mesocolon with parietal peritoneum is a secondary and later process. Normally the right prolongation of the omentum (like the ascending and descending mesocolon) fuses so completely with the subjacent peritoneum, both visceral and parietal, that its identity is almost completely lost. When, however, the ascending mesocolon persists, and fixation of the colon is incomplete, the descent of the cæcum draws out this portion of the omentum into a definite Jackson's membrane (Fig. 3).

Confirmation of this view may be found by a close examination of the peritoneum in the region of the hepatic flexure in the living body at almost any operation giving good exposure through a right rectus incision. I have observed that in most patients with normal fixation of the ascending colon the great omentum extends to the right flank above or in front of the hepatic flexure, and that a continuation of it can be traced down some way into the lateral paracolic fossa. This lateral process of the omentum is usually fused on its inner aspect with the outer longitudinal band of the colon, but between the lateral and anterior tæniæ a layer of peritoneum may often be demonstrated which is more or less free from and movable over the proper visceral peritoneum. This movable film of peritoneum on the front of the ascending colon is also derived from the lateral omental process. It is no doubt to this lateral process of the omentum that Blake[7] refers when he

FIG. 3.



Diagrammatic transverse section of abdomen, crossing ascending colon just below hepatic flexure, showing first stage of fixation of ascending colon. Persistence of this stage gives rise to Jackson's membrane.

states that Jackson's membrane is a normal structure. It is preferable, however, to restrict the term Jackson's membrane to a definite and extensive peritoneal veil having the disposition originally described by Jackson and illustrated in Fig. 1.

It is plain, therefore, that in the type of case dealt with in this paper, owing to a failure of fusion of the ascending mesocolon, the task of fixing the proximal colon, so as to adapt it to the erect posture, falls solely on the omentum (or Jackson's membrane), and that the task is inefficiently performed. In some such cases the membrane may undoubtedly cause trouble in later life by kinking the gut and causing mechanical obstruction to its contents. It is a point of considerable interest, however, that in none of these six cases did the membrane appear to have caused any mechanical obstacle to the action of the colon. Inefficient fixation was the one serious abnormality that was constantly present.

Treatment.

The first conclusion forced upon us is that Jackson's membrane *per se* does not call for any direct operative measure, such as division, unless on exploration evidence is found that it is causing mechanical obstruction to the colon. The primary mischief to which treatment must be directed is the excessive mobility of the colon. Before describing the appropriate operative treatment for this condition it is necessary briefly to review our knowledge of the physiology of the cæcum and ascending colon.

The contents of the ileum are discharged into the colon in a fluid state, and bacterial activity is greater in the ileo-cæcal region than in any other part of the alimentary tract (Cushing). Absorption of foodstuff has been almost completed in the small intestine, and it is but an inconsiderable residue of food that is absorbed by the colon. The great function of the proximal colon is the absorption of water. This is almost all accomplished in the cæcum and ascending colon, for it has been shown by Roith[11] that the contents of the transverse colon in man are usually as firm as those of the rectum. In the proximal colon, then, the fæces are changed from a fluid to a soft but consistent mass.

Regarding the mechanism by which the contents are passed on in the human colon much controversy has arisen, nor can the question be regarded as definitely settled yet. Difficulty arises from the fact that radiographic examination of the human colon after a bismuth meal usually shows no perceptible movement of the fæces at all, even when the examination is very prolonged. In such quadrupeds as the cat, Cannon[12] has shown that the chief movement is one of antiperistalsis. The contents are rhythmically forced back into the cæcum for thorough absorption of the fluid element, and then are squeezed on through the rings of retrograde contraction into the distal colon (the ileo-cæcal sphincter preventing regurgitation into the ileum), much as in the normal peristalsis of the stomach with the pylorus closed.

In man antiperistalsis of the colon has never been observed, and its occurrence is denied by many authorities. There is, however, strong evidence that it occurs to some extent, since recognisable constituents of small enemata placed in the rectum have often been observed to escape from cæcal fistulæ. We may perhaps conclude that, in the evolution of the upright attitude, antiperistalsis, though not entirely lost, has been almost discarded, because ineffective to secure proper emptying of the proximal colon against gravity.

The usual explanation given by radiologists to account for their failure to see any movements in the colon is that peristalsis in this part of the gut takes place so very slowly that it is imperceptible on the fluorescent screen. If this view be correct, it is remarkably at variance with the clinical experience that in diarrhœa colicky pain is often felt over the proximal colon but a few seconds before it transfers itself to the left side of the abdomen and heralds the immediate evacuation of a motion.

The probable explanation of this physiological puzzle of the human colon is to be found in some observations of Holzknecht,[13] confirmed by Barclay.[14] Each of these observers saw two cases in which quite suddenly the usual saccular segmentation of the colon disappeared, and a moment later, by a rapid, pushing, peristaltic movement lasting about three seconds (without any subjective sensation), the whole of the contents of one part of the colon were thrust on into the next segment.[15] It appears probable that under normal conditions, by three or four such sudden movements in the 24 hours, stimulated perhaps by the entrance of food into the stomach, the contents are passed on from the cæcum into the pelvic colon, there to await defæcation. The preliminary disappearance of the saccules is of great interest. It would seem to show that their function is merely to increase the area of contact with the mucous membrane, and that an abnormal dilatation of the saccules owing to loss of muscular tonus may be a potent cause of stasis in the proximal colon. It may here be recalled that in most of my cases of mobile proximal colon the saccules were unusually wide and deep.

This conception of a series of sudden but infrequent contractions of the colon, in which both circular and longitudinal muscle fibres take part, throws light on the disadvantage under which a mobile proximal colon labours in an orthograde animal like man. The human proximal colon has to push on its contents against gravity, and this opposing force of gravity becomes more effective with any loss of tonus of the abdominal walls. The normal peritoneal fixation of the ascending colon not only provides its muscular fibres with a *point d'appui* that is specially firm at the hepatic flexure, but also binds the colon down on the psoas shelf, so that it passes upwards and backwards in the loin at an angle of 51° with the horizontal, as shown by Coffey.[5] When the ascending mesocolon fails to fuse with the parietal peritoneum, the muscle fibres of the ascending colon lack their proper purchase, and the colon is more vertically placed and is subject to changes in position and ptosis, with a tendency to kinking at the hepatic flexure. The mechanical disadvantage under which it acts leads to dilatation and muscular incompetence, affecting the cæcum in a particularly high degree.

The operation, therefore, that commends itself to me, and which I have performed in my later cases, consists in restoring the normal position of the proximal colon by a series of thread sutures passing through the outer aspect of the ascending colon transversely to the long axis of the gut, and then through the parietal peritoneum, as far back in the loin as possible, to the outer side of the kidney. The operation is practically that devised by Coffey.[5] (Fig. 4.) The sutures are placed at intervals of about an inch and pick up the sero-muscular layer only. The postero-lateral tænia coli is included in each suture, which is run in and out on the colon so as to secure some plication of its wall and relief of the abnormal dilatation. By a series of four to six such sutures (the highest being near the hepatic flexure and the lowest opposite the ileo-cæcal valve), the proximal colon can be secured in a manner that closely imitates the normal peritoneal fixation. The filmy Jackson's membrane offers no obstacle to the passing of the sutures, and unless causing kinking of the colon may be ignored.

FIG. 4.

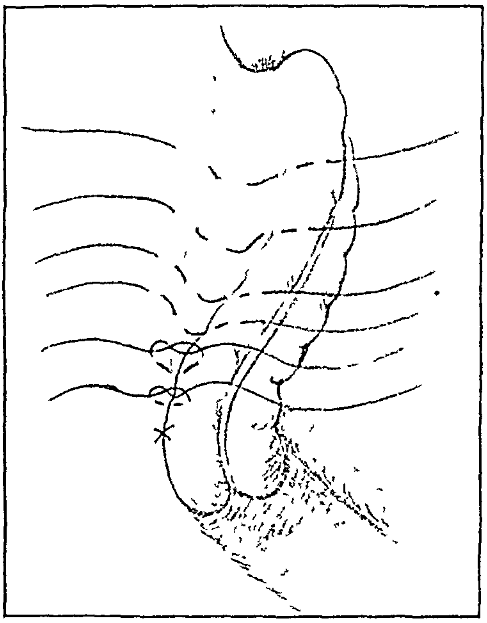


Diagram showing method of passing sutures in colopexy (after Coffey, modified).

This research represents part of the work undertaken under the terms of the Ashby Memorial Scholarship. I am greatly indebted to my friends, Mr. J. Millard and Dr. T. Graham Brown, for Fig. 1 and Fig. 2 respectively. I would also express my thanks to Professor G. Elliot Smith, F.R.S., for his kindness in allowing me to dissect the fœtuses in the Manchester University Anatomy Department, and to Dr. Graham Brown and to Messrs. Jennison, of Belle Vue Zoological Gardens, for so generously placing the dead monkeys at the disposal of the Anatomy Department.

Summary.—1. Jackson's pericolic membrane is of congenital origin and is non-inflammatory. 2. It occurs in association with abnormal mobility of the proximal colon, due to a failure of fusion of the ascending mesocolon with the posterior parietal peritoneum. 3. The great omentum, from which Jackson's membrane is derived, is the most primitive agent in fixing the proximal colon to the parietes in the right loin. In cases of mobile proximal colon Jackson's membrane may be the principal means of fixing the colon. 4. Unless it causes kinking of the colon a pericolic membrane is therefore rather useful than harmful, and should not be divided. 5. The symptoms and pathological conditions found in association with Jackson's membrane (apart from mechanical obstruction due to the membrane) are primarily due to stasis in the abnormally mobile proximal colon, which is ill-adapted to the upright posture. 6. Surgical treatment should be directed to securing the normal position and fixation of the proximal colon by the operation of colopexy.

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Manchester.

A METHOD OF REMOVAL OF CARCINOMA OF THE PROSTATE

(ABDOMINO-PERINEAL COMPLETE PROSTATECTOMY).

BY RUSSELL HOWARD, M.S. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON, LONDON HOSPITAL; SURGEON, POPLAR HOSPITAL.

THE following method of removal of the prostate, its capsule, and adnexa for carcinoma differs in several ways from the operations usually performed, and its immediate success makes me venture to hope that other surgeons may deem it worthy of a trial.

The patient, aged 48, married, with four children, was sent to the London Hospital by Mr. A. F. Blake, of Grays. He complained of difficulty of micturition for 12 months, the difficulty being in starting the act. Straining did not overcome the difficulty, and there was very small projection of the stream. There had been some frequency of micturition, both diurnal and nocturnal, but no pain. Two months before admission a catheter had passed easily. For one week before admission the difficulty had been much worse, and there had been retention of urine with overflow, as well as pain in the hypogastrium referred along the penis. The patient, who is a teetotaler, denied having had gonorrhœa or syphilis.

On examination the bladder was found to be distended, and a No. 7 coudé catheter was passed with difficulty, 16 oz. of urine being removed. The urine contained a little pus in which some rod-shaped bacilli were found, but was otherwise normal. Examination by the rectum showed the prostate to be enlarged, very hard, and somewhat nodular. The mucous membrane of the rectum was freely movable over the gland, and there was no evidence of involvement of the sacral glands. A diagnosis of carcinoma of the prostate was made, and the question of operation was put before the patient. During the ten days he was in hospital before the operation all the urine had to be withdrawn by catheter.

Operation.—The bladder was distended with 15 oz. of sterilised water, and suprapubic cystotomy was performed. The condition of the prostate was carefully examined from within the bladder and bimanually with one finger in the rectum and the other in the bladder, so that the exact extent of the disease was ascertained. The suprapubic wound was then closed with a sponge, and the patient was placed in the lithotomy position. A horseshoe-shaped incision was made across the middle of the perineum and the muscular coat of the rectum exposed, and keeping along this the rectum was separated from the structures lying in front of it until the upper limits of the vesiculæ seminales were reached. At the same time the fibres of the levator ani were divided on each side so as to free the prostate and the base of the bladder laterally.

A sponge was placed in the perineal wound and the patient was put in the Trendelenburg position. The suprapubic wound was enlarged downwards so as to admit the whole hand, and working *outside* the bladder the peritoneum was stripped back and the loose connective tissue in the cave of Retzius removed. Under electric light illumination the posterior layer of the triangular ligament was dissected from the pubes and the urethra divided distally to the fascia. The separation of the lateral aspects of the bladder and prostate was then completed, and the prostate still in its fibrous capsule with the base of the bladder and the vesiculæ were turned up and brought out of the suprapubic wound (Fig. 1) and the position of the ureters ascertained. The base of the bladder was then amputated just below the line of the entrance of the ureters, the bleeding points (which were surprisingly few) ligatured, and the bladder dropped back into position. A rubber catheter with two lateral holes was passed along the urethra into the bladder and out through the suprapubic opening and secured in the skin wound. Both wounds were then closed with drainage. (Fig. 2.) The patient was put to bed in the Fowler position.

FIG 1

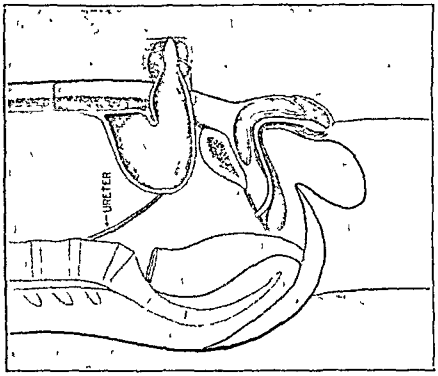

Diagram showing the prostate and bladder brought out of the suprapubic wound.

After-treatment.—There was practically no shock, and only on one occasion did the temperature rise above 99°F. The catheter was connected with a rubber tube passing into a receptacle at the side of the bed, and at first the urine leaked out of both the perineal and suprapubic wounds. The suprapubic drainage tube was removed on the fifth day and the perineal tube on the eighth, and after this the bladder was washed out daily through the catheter. The catheter was removed on the eighteenth day, and a fresh one passed into the bladder, the daily washings continuing. The catheter was finally removed on the twenty-eighth day, both wounds were healed, and the patient was allowed out of bed. On the thirty-second day a No. 12 *bougie* was passed easily, but the patient had a rigor, this being the only interruption of the convalescence. The patient left the hospital on the thirty-sixth day after the operation.

FIG. 2

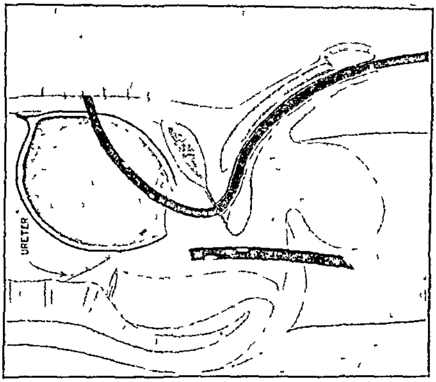

Diagram showing condition at the end of operation.

As to the condition on discharge, both wounds soundly healed. The patient could hold his urine for six hours without pain or discomfort, but micturition was then rather precipitate. A full-sized bougie easily passed into the bladder. The urine contained no pus, but there was a faint trace of albumin. The patient has been seen subsequently, and the slight tendency to incontinence has disappeared. A full-sized bougie passes readily.

The prostate was examined by Dr. H. M. Turnbull, of the London Hospital Pathological Institute, who reports "tubular and solid cubical and polygonal-celled carcinoma of the prostate."

As the operation was performed on Sept. 12th it is useless to speak of the likelihood of recurrence, but it can be claimed that the limit of operation was reached, all the tissue between the symphysis in front, the muscular coat of the rectum behind, the constrictor urethræ below, and the entrance of the ureters above being removed. The field of operation was under view the whole time, and the hæmorrhage was easily controlled in the usual way by forcipressure and ligature.

Devonshire street, W.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of this society took place on Nov. 21st at 429, Strand, W.C., Dr. F. J. Allan in the chair. The claim account presented showed a decided reduction in the amount, and was not above the expectation. New business was well above the number for the corresponding month in preceding years, and is still rising. The committee at this meeting discussed some changes of the rules which are to be submitted to the members at the annual meeting next year. It has been thought advisable to bring these more up to date and give greater facilities for dealing with sundry matters which from time to time have arisen in the past. The basis of the quinquennial valuation was approved, and it was resolved that this should be done by the actuary to the society as before. Substantial bonuses have been paid to members insured for [illegible] the age of 65. Further inf [illegible] secretary, Mr. Bertram Sut [illegible]

THE MYOCARDIAL LESIONS OF RABBITS INOCULATED WITH STREPTOCOCCUS VIRIDANS.

BY E. C. ROSENOW, M.D.
(OF THE MEMORIAL INSTITUTE FOR INFECTIOUS DISEASES, CHICAGO);
AND
CAREY COOMBS, M.D. LOND., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN, GENERAL HOSPITAL, BRISTOL.

ALTHOUGH a study of the chemical action of the various streptococci on artificial media affords valuable information, it should not take precedence over a classification of streptococci afforded by a study of their biological action on living animals. The present contribution is an account of the myocardial lesions found in rabbits inoculated with the streptococci isolated by one of us (E. C. R.) from cases of chronic ulcerative endocarditis.[1] These organisms corresponded to streptococcus viridans, but owing to the fact that numerous strains have been converted into pneumococci they have been designated as modified pneumococci. The affinity for the heart valves of rabbits of the strains of these cases as isolated has been shown to be striking. The experimental endocarditis has been proven to be embolic in origin. The vegetations here, as in man, tend to become very large, often obstructing the valve orifice. One of us (E. C. R.) has recently found that while the affinity for the endocardium of the streptococcus from rheumatism is as marked as that of streptococcus viridans, the mode of origin also being embolic, the type of lesions produced is very different; the vegetations remain subendothelial and tend to heal, producing small nodular scars similar to the chronic nodular endocarditis described by pathologists as characteristic of rheumatic endocarditis in man. Full details of these researches are being published in the current number of the *Journal of Infectious Diseases.*

Small blocks from the right and left ventricles and auricles from 19 hearts of rabbits in whom inoculation with these endocarditic strains of streptococcus viridans had caused endocarditis were cut and studied. Fourteen of these showed some microscopic evidence of invasion of the myocardium of the following character:—

1. In those hearts where the animal succumbed soon after the injection of a large dose of the organism masses of Gram-positive cocci were actually demonstrated within the smaller blood-vessels of the myocardium, and in some of these there was little or no inflammatory reaction. In other sections it was possible to discern that the cocci were undergoing destruction and phagocytosis by the endothelial cells of the small blood-vessels in which they became fixed; cocci, single, paired, and in short chains, were occasionally to be seen within the endothelial cells. This process had not reached the pitch portrayed in Leila Jackson's[3] article * describing similar phenomena in connexion with the myocardial lesions induced by inoculation of rabbits with the hæmolytic streptococci cultivated by D. J. Davis. In one or two instances the cocci were included within a thrombus, which obliterated the lumen of the vessel. In none of the sections was there any evidence of profuse invasion of the myocardium by cocci.

2. In the majority of hearts, however, cocci were not seen in the myocardium, and the only evidence of invasion of that tissue lay in the presence of reactive changes varying in degree, but not transgressing above a certain maximum. These reactive phenomena expressed themselves primarily, in many cases exclusively, in changes in the vascular endothelium. The mildest evidence of intravascular irritation consists of a swelling of the endothelial cells, which appear to change from a flat to a cuboidal state. The next stage in their reaction is proliferative; changes of this type are particularly rife in the smallest arterioles and in the capillaries, also perhaps in perivascular lymph-vessels. The endothelial proliferation expresses itself chiefly in three ways: in some places its chief effect is to occlude partially the lumen of the vessels concerned; in others the perivascular areas become infiltrated with "endothelial leucocytes"—i.e., movable cells apparently identical in structure with endothelial cells; while in others, again, new capillaries are formed as a result of the endothelial budding-out. This latter represents an extreme development of the proliferative process, and was definitely noted in one only of our hearts, in an area occupied by islets of necrotic muscle separated from each other by zones of fibroblastic and angioplastic reaction. A step beyond the proliferative process lies disintegration of the vascular endothelium, associated with thrombosis, and sometimes with break-up of the vessel wall—the result being the creation of an area having a small hyaline clot as its centre, around which endothelial cells are irregularly arranged, constituting a zone separating the abnormal focus from the surrounding tissues. Such foci are strongly reminiscent of those seen in the earliest stages of human rheumatic myocarditis. Advanced stages like these are only seen in rabbits dying 5–22 days after inoculation.

Apart from these various phases of endothelial activity—swelling, proliferation, and degeneration—there was little sign of inflammatory reaction. Polymorphonuclear leucocytosis in particular was quite exceptional; in the largest focus, a subendocardial area of cellular infiltration apparently originating in thrombosis of a fairly large vessel, the polymorphonuclears appeared to constitute nearly 50 per cent. of the cells, and in no other spot did they approach this number. Marked fibroplasia was noted in one area only, that already mentioned as exhibiting a group of necrotic spots separated from each other by a productive reaction. This, which represents a stage of repair, was noted in the heart of a rabbit dying 20 days after inoculation.

These phenomena are closely similar in several of their essential features to those witnessed in the following streptococcal infections: human rheumatic infection,[4] experimental rheumatic infection,[5] and experimental infection with hæmolytic streptococci.[6] The following fundamentals are common to all these infective processes: the myocardium is frequently invaded, the path of invasion lies through the myocardial blood-vessels, the endothelium of the blood-vessels plays a primary and predominant part in the defensive reaction, and the cocci are not found to have escaped in numbers beyond the vascular endothelial cells. Such differences as exist are differences of degree; and in respect of virulence we would tentatively suggest that so far as the observations on the myocardial lesions are concerned, the four types of streptococcal infection range downward from experimental infection with streptococcus rheumaticus to experimental infection with streptococcus *viridans*, human rheumatic infection and experimental infection with Davis's hæmolytic streptococci occupying an intermediate position. Whether this gradation prove correct or not it seems justifiable to claim that the observations recorded in our brief note help to support the belief in the existence of a close relationship between the streptococci of rheumatism, the streptococci from chronic ulcerative endocarditis, and the hæmolytic streptococci described by Davis.[7]

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* Dr. Leila Jackson has been kind enough to send some of her sections to one of us (C.C.).

[illegible] of Infectious Diseases, 1909 [illegible] vol. xi., p. 210; and New York [illegible] 1912. Journal of American [illegible] Coombs: THE LANCET, 1912, [illegible] of Infectious Diseases, 1912, [illegible] 4. Coombs: Quarterly Journal of Medicine, 1908, vol. ii., p. 26; Journal of Pathology and Bacteriology, 1911, vol. xv., p. 489. 5. Coombs, Miller, and Kettle. THE LANCET, 1912, vol. ii., p. 1209. 6. Jackson: Loc. cit. 7. Journal of the American Medical Association, 1912, vol. lviii., p. 1852.

TUBERCULOSIS STATISTICS:

SOME DIFFICULTIES IN THE PRESENTATION OF FACTS BEARING ON THE TUBERCULOSIS PROBLEM IN A SUITABLE FORM FOR STATISTICAL PURPOSES.[1]

BY HILDA CLARK, M.B., B.S. LOND.,
LATE TUBERCULOSIS MEDICAL OFFICER, PORTSMOUTH.

THE necessity for statistical research in matters where direct experiment cannot be arranged under strict scientific conditions need not be emphasised to this audience. There are, it is true, some scientific discoveries which have been made through the insight of a master mind who could separate the essential from the accidental in the cases under his own observation and draw deductions that time and further research have verified. Such a thinker may also use the carefully recorded observations of others for his inspiration, or for the confirmation of his suspicions. But where this fails, and where the conditions of exact scientific observation and experiment are lacking, we have recourse to the statistical method—that is, to the consideration of series of cases with regard to certain facts, and to a comparison of one series with another in order to establish the relations of different sets of facts to each other. In this way it is possible to obtain conditions approaching those of scientific observation and experiment in the laboratory. We can eliminate to some extent the personal equation of the observer, the accidental relation of one fact to another, and the coincidence of other disturbing factors. The value of this method depends first on the accuracy with which the facts can be observed; secondly, on the extent to which they can be isolated from other factors, including the possibility of isolating and recording control cases; and, thirdly, on the possibility of describing and defining the set or class of people or conditions from which the facts have been collected. While it is obvious that common sense must be used as to what facts are likely to be of value, and that science will progress faster if the more important ones are investigated first, it is well to remember that some facts prove useful later that did not suggest much promise at the time. Thus it would be an advantage to those who wish to know what provision to make for treatment by artificial pneumothorax if they knew in what proportion of cases serious mischief in one lung is accompanied for an appreciable length of time by little or no infiltration of the other.

I am not qualified to deal with the whole statistical question of the estimation of figures connected with tuberculosis, but I think it may be of value to consider to what extent those of us who have been engaged in practical tuberculosis work can prepare records suitable for statistical expression and deductions, and to ask for suggestions as to how the difficulties which arise may be overcome. The material which I propose to consider chiefly is that which comes under observation in a modern tuberculosis scheme where all available preventive and curative measures are coördinated round a dispensary for diagnosis and specific treatment.

It is necessary first to review briefly the essential features of the clinical problem before us. Tuberculosis is a chronic disease of which neither the beginning nor the end has been accurately defined. The causal organism is so widespread that practically the whole population has the opportunity for contracting it. So many people who harbour the bacillus and are infective to others are in comparatively good health that compulsory isolation of all infective cases would inevitably lead to concealment and so defeat its own object, and we are obliged to contrive a less drastic and more complicated plan of eliminating the sources of infection. The onset and course of tuberculosis, depending, as in most bacterial infections, on a varying relation between the virulence of the bacteria and the specific protective mechanism of the host, are more varied than those of any other infectious disease known, and appear to depend more on variations in the protective mechanism than on those in the infecting organism, though it is held that the latter is also important and that there is a definite difference between the human and bovine types. The protective mechanism depends not only on innate qualities but also on constantly changing conditions in the body, and thus is profoundly affected by the environment, by all that affects the general nutrition of the body, including mental and emotional factors, and by the accidental presence of other bacteria. This variation in the course of the disease and the extent to which chronic forms occur has not been recognised until recently. It is possible that the chronic and less active forms are more common now than in days when the death-rate was higher. We are not yet in a position to estimate their importance or the part they play in the causation of chronic ill-health, in the mortality from other diseases, in spreading infection, as the precursors of fatal outbreaks of active tubercle, or in stimulating the production of any effective degree of immunity to tuberculosis. The investigation of these points is both urgently needed and peculiarly difficult, as I will show later.

The irregular course of the typical case of fatal phthisis must also be noted. Whether treated or untreated, alternating improvements and relapses are generally observed, and it is difficult to say in any individual case at the onset of serious symptoms whether life will last a month or several years. This variation is probably due to the effect of environment (in the broad sense of the word) on the protective mechanism, and it introduces a great difficulty in estimating the effects of any line of treatment. Some cases, however, show a steady downward course from the onset, and if a means could be found of ascertaining whether a case belonged to this type before the disease became hopelessly advanced there would be evidence in favour of a method of treatment which was followed by improvement in such a case.

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[1] Being a paper read on Nov. 28th, 1913, before the Section of Epidemiology and State Medicine of the Royal Society of Medicine.

This brings us back to the difficulty of diagnosis, one which opposes us at every attempt to obtain valuable statistics, and which must itself, until the laboratory can solve it, be tackled by the statistical method. The position is that the only universally accepted proof of infection having taken place is the demonstration of the tubercle bacillus, either by direct examination or, indirectly, by injection of the suspected material into a guinea-pig. It is, however, generally agreed that the occurrence of a reaction after the injection of tuberculin indicates that the subject has previously been infected by tuberculosis, though it is held by many that this reaction still occurs when the lesion is healed.

There is no method known of proving that an individual has been completely cured of tuberculosis. Further observation is needed to show whether a reaction can occur in the subject of a completely healed focus, but if tuberculin has been used for treatment it cannot be used to prove the completion of cure, since it is well known that complete tolerance to tuberculin may be established without cure. Even the failure to obtain a focal reaction cannot at present be used in this way, since it may be absent or unrecognisable in cases where there are other signs to show activity. Since there is no universally accepted criterion of the activity of a focus or of the resisting power of a patient, the decision as to the type and prognosis of a case is always a matter of personal opinion. In order to obtain statistical evidence that may overcome this difficulty, careful classification must be adopted.

It has already been laid down by all observers that for statistical purposes cases must be divided into two classes: those with tubercle bacilli in the sputum and those without. A practical difficulty arises here in comparing dispensary cases with those at a sanatorium, since it is far less easy in the former to obtain a good specimen of sputum. Two series of cases can only be compared if equal time and care have been given to the sputum examination in each. Attention must also be called to the question of whether the fact that a case expectorates tubercle bacilli—i.e., is "open"—is for that reason in a more serious condition than one who does not, or whether the higher mortality among the former is solely due to the fact that the latter include cases of mistaken diagnosis. This is important, in view of the observation made by several workers that in dispensary practice the bacilli are often detected after a reaction when they had not been discovered before. Unfortunately, in many cases too little time had been expended on the previous examination to make it certain that bacilli had never been present.

The investigation of cases in what may be termed the "prebacillary" stage is of urgent importance, and must be carried out mainly by the statistical method. It must not be forgotten that all fatal cases of phthisis, all cases infective to others, pass through this stage, so that to ignore it is as obstructive to further progress as it would be to ignore the incubation period of small-pox and wait till the symptoms develop before vaccinating. Some information as to this phase is obtained from post-mortem records. These must be used carefully, since it is difficult to express their relationship to the community as a whole. Post-mortem examinations are rarely done on people whose health and illness record can be ascertained in detail, and therefore throw little light on the extent to which chronic lesions cause symptoms. Records of tuberculin tests applied to a complete and definable class are, of course, valuable, but only to a limited degree if such observations cannot be compared with records of past and subsequent history, both of those who react and of those who do not.

What is chiefly needed in order that pertinent facts may be obtained is the observation over as long a period of life as possible of cases of chronic ill-health, the careful classification of facts thus observed, and the statistical comparison and correlation of all series of facts that could bear on the question. Much experience outside dispensary work may be utilised for this, such as that of general practitioners working among a similar class of society, and records of charitable organisations, who often follow cases up for years through the hands of varying medical men and institutions.

The records of medical inspection of school children will provide a basis of figures referring to a whole definable class, with which figures concerning selected members may be compared. It must be remembered, however, that it is useless to compare a set of children examined by one standard with a set examined by another, and the standard adopted must be clearly described. Thus school children are examined by a standard which can be applied in from two to five minutes, while the apparently healthy children from a house where a case of tuberculosis has occurred are examined at a dispensary by a standard which takes a quarter to half an hour. There may be a considerable difference between the conditions considered tuberculous by those who use the tuberculin test and those who do not. It is not always possible to secure the complete examination of the whole family of an infective case, and the reasons why some members can be brought and not others are very varied, so that the selection of those to be examined is not uniform.

A consideration of the history of the length of symptoms that a patient gives may throw some light on the prebacillary stage, but unless it can be confirmed by other evidence it is of limited value as regards conclusions concerning the pathological condition. It is, however, perfectly valid for showing at what stage of the disease it might be possible to persuade the majority of cases to apply for diagnosis and treatment. The difficulty in drawing conclusions as to the effect of treatment at this stage is so great that some people appear to think it is hardly worth while to consider such cases. Since it is only at this stage that treatment can result in complete cure without destruction of lung tissue and can prevent the case from being infective to others, it is particularly important to settle the question as to what methods are the most effective. Now in judging this it is necessary to consider the whole number of these cases and not only those who are willing to follow the practitioner's advice. A method which patients can readily undergo and which can readily be provided will be more successful than a more complicated one.

The final criterion of success for practical purposes is the extent to which the incidence of active tubercle can be lowered, and in selecting methods likely to attain to this we must estimate the percentage of cases that will be unable to avail is certain, and who are then too advanced for cure. Tuberculin treatment must include among its failures those who are too stupid or too careless to attend at regular intervals or who deliberately falsify their temperatures. Treatment must always be considered from two points of view—first, its effect on those who are willing and able to do what they are told, and, secondly, its applicability to the social conditions of those needing it. The two aspects cannot always be separated, but the attempt must be made by careful classification of the facts observed with this in mind, and statistical evidence as to the effect of a particular method of treatment in relation to the environment can be obtained, even in the prebacillary stage, if a long series can be observed in this way over a long enough period. The statistics thus obtained are comparable to those of the value of vaccination, and it must be remembered that while a certain proportion of a given series would remain well without treatment, if a higher proportion is found to do so when treatment is given it may be taken as proof that such treatment has been effective.

Turning to the cases in whose sputum tubercle bacilli are found, we may obtain some information as to the type through the investigation *of death certificates and of notified cases.* Even the figures drawn from death certificates are

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confirmed by post-mortem examinations, and the examination of the sputum is frequently omitted. With regard to tuberculosis in infancy, such figures are particularly fallacious, and the recent developments of tuberculosis work, in diagnosing as tuberculous many cases whose death would otherwise have been

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should suffer from a complication the diagnosis of which was masked by the presence of tubercle bacilli, an error would be introduced into the classification. To avoid this it would be necessary to keep patients under prolonged observation before classification, without using any treatment. This is not always possible in dispensary practice, where there is too much risk to the patient if time is lost.

As an example of the necessity for both analysing observations and considering a sufficient number before drawing conclusions, I may quote my own records, which show that even out of so long a series of cases examined as 1400 it happens that nearly all whose names begin with J were unsatisfactory to treat. This might have been thought suspicious had it referred to an occupation or a *locality*, instead of to a letter, but the suspicion would have been removed by a closer analysis, as this shows a sufficient variety in the reasons for difficulty in treatment to suggest coincidence rather than causal relation.

I have already referred to the importance of environment in its effect on the incidence and course of the disease. Since we have no method of treatment that even claims to be both certain and rapid in action, those in general use acting through gradual stimulation of the specific protective mechanism of the patient, it is clear that environment must also have an important influence on the success of treatment. Hitherto it has only been considered in its broadest aspects, and it has not been followed up in the minute way that it deserves. The difficulty lies in the interaction of cause and effect, and is increased by a tendency to regard one effect and ignore another. This may lead to the most erroneous conclusions. For instance, a larger proportion of cases from poor homes improve under treatment than is found among cases who are well off, but it is not justifiable to conclude from this that poverty has a stimulating effect on the resisting power. Such a fallacy is checked at once by remembering that the death-rate from phthisis is far higher among poor people than among rich. The environment must be considered in relation to almost every factor that is required for statistical purposes. Under this heading may be included a large number of the difficulties that beset the accurate record of facts at a dispensary. It affects the type of applicant that is attracted. Thus, if there is indiscriminate provision of food and clothing the poorest are attracted and the self-respecting are kept away.

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ck child, another loses his job, another

gnant, another catches influenza, yet another has a letter for a sanatorium offered him, and though he appears to have recovered satisfactorily without, he must not be dissuaded from receiving the added security against relapse that a month or two in a sanatorium might give. To disentangle and analyse these conflicting elements is a serious problem in the routine of a busy dispensary. It is often difficult to tell exactly what the decisive *factor* has been. For instance, a patient has been treated with tuberculin for a time and then gets a severe reaction which interferes minimum. As regarded quarantine he often allowed contacts to mix with other children up to the eleventh day, when they were isolated until the twenty-second. He had always found a quarantine of 21 complete days sufficient. In mumps the usual isolation period was three weeks, and Dr. Ker had never seen harm result from allowing patients out of isolation when a full week had elapsed after the disappearance of swelling. In mild cases this was often slightly within the fortnight. Exclusion of contacts from the thirteenth to the twenty-sixth day from the date of the first and last exposure respectively would, in Dr. Ker's view, be a quite safe rule for schools to adopt. Bacteriological methods could be relied on to determine the isolation period in enteric fever and there seemed no valid reason why contacts should be excluded from school. Small-pox stood by itself; typhus occurred too rarely to demand consideration.

Dr. G. H. Melville Dunlop was sceptical whether if all these schools regulations were in abeyance the incidence of infectious disease would be seriously affected. Measles and whooping-cough concerned the practitioner most, as they caused the greatest mortality amongst young children. He thought that as soon as whooping-cough had developed it ceased to be infectious. Chicken-pox was so mild that they might ignore isolation altogether. Scarlet fever was now so mild that it was often difficult to recognise. He had had return cases after eight to ten weeks' isolation.

Dr. J. Hally Meikle cited the returns of attendance at the Edinburgh board schools during the last five years. The average number of absences was 4000 due to actual disease and contact. The school population being 40,000, that was 10 per cent; 30 per cent. of these absences were due to notifiable diseases. Each year from one-third to one-quarter of the total absences were due to measles, one-seventh to whooping-cough, one-eighth to scarlet fever, and one-fortieth to diphtheria. He was glad that the "perfect attendance prize" had been abolished in the Edinburgh schools during the past three years.

Dr. Alexander James agreed with the modification of the restrictions as regarded infectious diseases. Since 1887 he had records of absentees in the Merchant Company's schools, and these were due more to susceptibility than to infection.

Mr. R. H. Ferard, headmaster of th [illegible] said that it gave enormous trouble to [illegible] lations dealing with infectious diseas [illegible] them out with scrupulous exactitude, though he believed that many of them were practically of no value. Mischief was done in quite the early stages and before the cases were diagnosed. He thought that cases exposed to measles infection might attend till the eighth day and mumps till the fourteenth day.

Dr. G. Keppie Paterson, Dr. James Ritchie, Dr. Hope Fowler, Dr. Burn Murdoch, Dr. James Carmichael, and others took part in the discussion, and Dr. Ker replied.

Glasgow Obstetrical and Gynæcological Society.—A meeting of this society was held on Oct. 29th, Dr. J. Lindsay, the President, being in the chair.—The President showed microscopic slides illustrating various stages of Necrobiosis in the Embryo: (1) Normal ectoderm and mesoderm; (2) fragmentation of nuclei; (3) karyolysis; and (4) total disintegration of cells. He pointed out that these changes took place in the tissues under aseptic conditions—e g., while the embryo was in the amniotic fluid. He pointed out also that these changes were evidence of necrobiosis occurring in the embryo, and expressed the opinion that the condition was not rare.—Dr. D. T. C. Frew read a paper on a case of Œdema Vulvi treated by a salt-free diet. The patient, a primægravida, had swelling of the vulva of some weeks' duration. Her previous history was that of a healthy woman who had no serious illness at any time. She was seven and a half months pregnant and had noticed the swelling at the sixth month. The ankles were slightly swollen towards night only. The œdema of the vulva became so marked that she had to take to her bed, and she also complained much of shooting pains and intolerable itch in the parts. There were no varicose veins in the legs, but hæmorrhoids were present. The abdomen was much enlarged, the fundus uteri reaching close to the xiphisternum but no ascites could be detected; the uterus was tense, and the fœtal parts could scarcely be detected. The heart and lungs were normal; systolic blood pressure 125 mm. The urine was normal. She suffered from constipation Treatment at first consisted of local applications of moist heat with 1 per cent. cocaine ointment for the pruritus and support with pad and bandage was given. Internally diuretin, 10 grains at four-hourly intervals, purgatives and reduction of fluid in the diet. This treatment had no effect after a week's trial, and a salt-free diet was tried, home-made bread, rice, fresh fruit, milk, and eggs without salt. A small amount of meat was allowed steeped in cold water for some hours before cooking. Diuretin was continued. At the end of 48 hours there was a visible diminution in the swelling, pain was absent, and the pruritus less severe. In ten days the œdema was almost absent and the uterus less tense. She returned to ordinary diet about this time, continuing the diuretin, and there was a slight return of the œdema. She had ultimately a normal labour—twins—and an uneventful recovery. Dr. Frew considered the œdema to be due to pressure by the distended uterus, there being no evidence of renal insufficiency.—Dr. Macfarlane remarked that sometimes diuretin suddenly began to act after it had been in use for some time.—Dr. McIlroy thought the case might have been one of renal insufficiency and the swelling of the vulva the only sign of it, and asked why a salt-free diet had its effect —Dr. Frew replied.

Bradford Medico-Chirurgical Society.—A meeting of this society was held on Nov. 18th, Dr Sykes being in the chair.—Dr. J. B. Dunlop introduced a discussion on Non-tuberculous Disease of Joints, confining his remarks to rheumatoid arthritis. The nomenclature surrounding rheumatoid arthritis being cleared up, he described true rheumatoid arthritis as a general disease, *primâ facie* a wasting disorder with considerable vasomotor disturbance. Various infective foci, he said, have been blamed for its causation—i e., pyorrhœa, rhinitis, otorrhœa, and colitis, the prognosis being most gloomy. He considered the treatment under three heads: (1) General—all forms of suspected chronic infection must be vigorously treated, the diet must be good and substantial, and the intestinal tract receive careful consideration; (2) medicinal—general tonic treatment, cod liver oil, iodides, and arsenic are indicated; and (3) hydrotherapeutic—baths, massage, radiant heat, iodine ionisation.—Dr. C. M. F. Althorp, discussing the question from a surgical aspect, alluded to metastatic joints, syphilitic, nervous, and gonorrhœal. He did not seem much impressed with the vaccine treatment. Aspiration combined with the injection of formalin in glycerin seemed, he said, to give good results, particularly in the gonorrhœal forms, while drainage increased the tendency to ankylosis and should be avoided whenever possible.—Mr. Basil Hughes advocated the vaccine treatment in suitable cases. He had had remarkable success especially in rheumatoid and gonorrhœal cases, but he laid great emphasis on the fact that the vaccine must be autogenous; stock vaccines only lead to disappointment and failure.

Æsculapian Society.—A meeting of this society was held on Dec. 5th, Dr. David Ross, the President, being in the chair.—Many interesting pathological specimens were shown. Among others Mr. R. M. Vick showed the pelvic colon from a patient upon whom Mr. W. McAdam Eccles had operated for intestinal obstruction consequent upon chronic diverticulitis, the pathology of which and its genesis were fully described.—Dr. A. Feiling exhibited a Brain from a man, aged 78, first seen in a state of coma. Both optic thalami showed thrombosis—one recent, one old. The heart was normal; the kidneys were not much affected; the basal brain vessels were calcified.—Dr. A. F. S. Sladden showed the Heart of a fat subject aged 40 years. The woman had disease of the tricuspid, mitral, and aortic valves. The cavities were dilated, the liver was enlarged, the stomach inflamed, and the pancreas fibrotic.—Dr. A. E. Stansfeld showed a specimen of Acute Pancreatitis from a woman aged 29 who had epigastric pain and pyrexia for a few days. Some of the fat of the posterior abdominal wall was necrosed. There was an ascaris in the duodenum not obstructing the duct. There were two gall-stones in the gall-bladder.—Dr. Stansfeld also showed a Liver with many large secondary carcinomatous growths following the primary growth in the stomach, and a *primary malignant growth* in the thymus.—Dr. Sidney F. Fouracre showed a specimen of a Congenitally Small Auricle.

A fibrous strand represented the cartilaginous meatus, the middle ear was filled with embryonic gelatinous tissue, the Eustachian tube was a cleft, the malleus was absent, but the auditory nerve was normal.—A fitted dressing bag was presented, on behalf of the society, by Dr. B. G. Morison to the President for his valuable services while secretary to the society.

Reviews and Notices of Books.

The Diseases of Children.

Edited by Dr. M. PFAUNDLER and Dr. A. SCHLOSSMANN. English Translation edited by HENRY L. K. SHAW, M.D., and LINNAEUS LA FETRA, M.D. In Five Volumes. Vol II. (second edition) London and Philadelphia: J. B. Lippincott Co. 1913. Pp. 652. Price £5 5*s*. for five vols.

THE table of contents of the second volume of the above text-book includes 19 separate chapters on the various infective disorders to which children are subject. It also includes four chapters on metabolic diseases, two on blood diseases, one on the diseases of the new-born, one on prematurity and congenital debility, and several miscellaneous chapters difficult to classify. It will be readily understood from a perusal of this list of subjects that the volume under review not only contains matter of the greatest importance, but also deals with branches of medicine in which great progress has been made since the publication of the previous edition (1908).

Among the subjects dealt with in the chapter on the diseases of the new-born, which is from the pen of Dr. W. Knöpfelmacher, of Vienna, and is translated by Dr. A. S. Maschke, of Cleveland, there is an interesting account of the post-natal activity of the mammary gland and the causes of mastitis. Reasons are given for subscribing to the view that milk secretion in both mother and child is due to the same cause, although proof is still wanting that the cause of the secretion is the cessation of the action of some ferment or chalone elaborated by the placenta. The prophylaxis against mastitis is summed up in the words "protection against trauma"; damage to the superficial epithelium affords a passage to micro-organisms, which wander into the glandular tissues, and these set up an inflammatory reaction. "For this reason expressing the contents of the gland is interdicted, and the secreting gland should be protected from pressure by the application of sterile cotton buffers." In this chapter also are described the other common paths of septic infection in new-born infants, together with the most practical means of prevention, especially in hospitals and institutions where a number of infants may be segregated.

The chapter on prematurity and congenital debility is written by Dr. O. Rommel, of Munich, also translated by Dr. Maschke. Full details are given of the physiology and pathology of the premature infant, and a considerable number of pages are occupied by a very full description of various incubators, including one designed by the author himself. The disadvantages of incubators, especially those in which the head of the infant is imprisoned, are so great that we imagine the somewhat elaborate and complicated apparatus here described will have little interest for English readers. In this chapter Dr. Rommel emphasises the objections, frequently insisted upon in other chapters of the volume, to the practice of artificially cleaning the infant's mouth owing to the extreme vulnerability of the oral epithelium. Among the causes of prematurity and debility in infants pre-natal toxæmias in the mother are only incidentally mentioned. Owing to the importance which these

assumed in the category of

regrettable that the translator did not take upon himself the responsibility of adding a footnote or interpolated paragraph calling attention to the work which has been recently published on the subject.

In the chapter on blood diseases, by Dr. A. Japha, of Berlin, translated by Dr. Edward F. Wood, of Wilmington, N.C., a very excellent table is supplied of the blood count, clinical picture, and anatomical findings in 15 different varieties of anæmia met with in childhood. The differential diagnosis between acute

lymphatic leukæmi

disease, and a number of other anæmias due to splenic and marrow disturbances is admittedly difficult; and although the classification adopted by Dr. Japha is not that which is most favoured in this country, there can be no doubt that this painstaking tabular arrangement of the hæmatological and clinical distinctions will help many a student to arrive at a correct diagnosis.

The chapter on infantile scurvy, written by Professor W. von Starck, and translated by Dr. Charles K. Winne, of Albany, N.Y., is, in view of the recent discovery of the vitamines, somewhat anachronistic, and further, in view of the considerable number of cases which have been reported, especially in American literature, of occurrences of the disease among *breast-fed infants*, it is somewhat surprising that the translator or editor does not call attention to the statement of the author that "the few cases of this kind reported in the literature are not free from criticism."

A very interesting chapter is contributed by Professor Pfaundler, of Munich, on the lymphatic constitution, in which he recognises the difficulties of the nomenclature of the complex of symptoms which usually pass under this name, but which is sometimes held to be identical with, and at other times distinct from, the arthritism of the French pædiatrists, and the exudative diathesis of Czerny. He says: "The descriptions of different authors do not make it clear if the three names (quoted above) are really synonyms for the same disturbance, or if we have to assume different anomalies of this kind which have only some common symptoms."

The chapters on the exanthemata are all from well-known German authorities, and may be regarded as authoritative and up-to-date accounts of these diseases. The chapter on malaria, which is included among the specific infections, is an addendum to the English translation. The inclusion of this disease in a text-book for English-speaking readers was regarded as essential for completeness; it has been contributed by Dr. Henry L. K. Shaw, of Albany, one of the editors of the translation under review. Although quite a short chapter, it brings out very clearly the characteristic features of the malarial infection as manifested in the child. The two chapters on syphilis and tuberculosis, the first under the name of Professor C. Hochsinger, of Vienna, and the second under that of Professor A. Schlossmann, of Düsseldorf, are the most important in the volume. They are profusely illustrated with both coloured and uncoloured plates, and they also contain a vast amount of statistical details which should prove of great value to the lecturer and investigator, but which are clearly outside the requirements of the practitioner.

Taken as a whole the second volume of this important text-book is, in spite of our rapidly growing knowledge of the subjects of which it treats, still the most complete and up-to-date work available to the ordinary reader in a compact form.

Tuberculin in Diagnosis and Treatment.

By Dr. BANDELIER and Dr. ROEPKE Second English edition. Translated from the seventh revised and enlarged German edition by WILFRED B. CHRISTOPHERSON. London: John Bale, Sons, and Danielsson, Limited. 1913. Pp 307. Price 15s

THE present (second) English edition of "Tuberculin in Diagnosis and Treatment" is a translation from the seventh German edition of the "Lehrbuch der Spezifischen Diagnostik und Therapie der Tuberculose." Apart from the addition of side-headings, the omission of a few notes unimportant to English readers, and the conversion of doses from [illegible] centimetres to cubic millimetres in accordance [illegible] other recent English text-books, the work has been translated literally.

The new edition has been thoroughly revised and brought up to date, and the subject-matter has been rearranged. This has necessitated an enlargement of the book, and in order to restrict this to definite limits and not to hamper the clear description of specific diagnosis and treatment all matter relating to theory, which was previously scattered through the various chapters, has now been collected into a special section, completed and condensed. It follows the introduction, which describes the present condition of tuberculosis and the tuberculin question.

The specific diagnosis of tuberculosis is again divided into general and special sections. The former has been enlarged to include a more detailed description and a coloured illustration of the intracutaneous test, and to the latter has been added a chapter on the specific diagnosis of tuberculosis of the digestive organs and some new charts to show tuberculin reactions. In discussing the specific diagnosis of tuberculosis by means of the subcutaneous test, minute information is given as regards the technique, and if the directions are carefully followed no difficulty should be experienced in carrying out the process. We would draw special attention, however, to the remarks on the interpretation of result. It is definitely stated that reaction to one of the doses of tuberculin mentioned does not point with absolute certainty to *active* [illegible] treatment. This statement [illegible] great majority of observers who have studied the question with entirely unprejudiced judgment. Further, the authors say: "The subcutaneous tuberculin reaction, as such, tells us nothing certain as to the activity or inactivity of th[illegible]. It only tells us whether the person tested [illegible] with tuberculosis, which may be latent and active or latent and inactive. Whether the former or the latter is the case must be decided by clinical observation and by consideration of the history of the patient." It is important that these words should be borne in mind, otherwise a wrong interpretation of the tuberculin reaction is likely to arise.

The section on the specific treatment of tuberculosis is admirably carried out. The different varieties of tuberculin which have been introduced are described at length, the methods of dilution, the sequence of doses, and the results which may be expected being duly considered.

In the concluding section of the book an excellent summary is given of the results which have been obtained, both [illegible] ment. Emphasis is [illegible] bining tuberculin tre[illegible] The authors maintain that the combination of the two modern factors—sanatorium and tuberculin treatment—is the most efficacious method of treatment for active [illegible] present available, especi[illegible]s passed the initial stage. We should go further and say that a combination of measures is essential throughout all the stages of the disease, for it is only by making use of all the therapeutic methods at the disposal of practitioners that success can be obtained. But in order to be able to give tuberculin to the best advantage [illegible] precaution are necessary, [illegible]titioner attempts to adopt its use [illegible] instruction, preferably in [illegible] patients can be constantly watched.

[illegible] on the employment [illegible] recommend the work we have been considering. Dr. Christopherson has carried out the task of translation most satisfactorily.

Handbook of Physiology.

By W. D. HALLIBURTON, M D. Lond, F.R.C.P Lond, LL D., F.R.S., Professor of Physiology, King's College, London. Eleventh edition. With nearly 600 illustrations in the text, many of which are coloured, and 3 coloured plates. London; John Murray. 1913 Pp. 923, Price 15s. net.

A TEXT-BOOK which has reached its eleventh edition should hardly need any words save those of approval and commendation. We cordially congratulate the author on the changes, excisions, and additions he has seen fit to make in the present edition. We think he has done wisely to call to his aid the specific knowledge of Mr. Barcroft, F.R.S., on saliva, respiration, and the kidney. The chapters on these subjects have been greatly improved and brought abreast of all modern research. To Dr. A. F. Hertz, also, the author expresses his indebtedness for useful hints, whereby he has been enabled to bring the chapter on movements of the stomach and intestines up to date. A similar debt in relation to the sense organs is acknowledged to Dr. C. S. Myers, and in regard to the subject of reproduction to Dr. F. H. A. Marshall. The bulk of the volume has not been increased.

We venture to offer a few suggestions for consideration in further issues which may follow. It would surely be well to introduce a few dates of epoch-marking discoveries in physiology. The young reader hardly knows at what period Haller, Wharton Jones, Ludwig, Marey, and others lived, [illegible] the period of Erasistratus is given. Some [illegible] obtained by means of the string galvanometer are given, but there is no figure of the essential parts of the instrument itself, nor could we find a figure of the ergograph. In some of the coloured illustrations, such as nerve cells, the blues used in printing hardly strike us as well chosen, and at p. 215 the conventional colours used in a diagram of the circulation for venous and arterial blood have been widely departed from—perhaps intentionally. The colours chosen for red corpuscles (p. 455) and those for crystals of hæmoglobin (pp. 462–463) do not strike us as correct. Funke's atlas gives a far truer representation of the colour of blood crystals. Diagrams of the position of the

stomach derived from a study of X-ray
are inserted, but there is no reproduc
actual radiogram. And there is on
omission that calls for rectification. We have
looked
import
forms
on p. 1 .
subjects are not mentioned in
regard to the variations and an
sion in various diseases, it wo
—indeed, necessary—that the
least should be familiar with the normal physiology of these movements.

This handbook gives an all-round, very readable account of the main features of histology and physiology, such as should be acquired by all medical students as a basis for the further study of the subject on which all practical and scientific medicine must be based.

Stammering and Cognate Defects of Speech.

By C. S. BLUEMEL. Two volumes. New York: G. E. Stechert and Co. 1913. Pp. 755. Price 20*s.* net.

THESE volumes are well worth careful study. The received traditions of the etiology of stammering are admittedly not satisfactory. To state that this failing is due to spasm or to incoördination of muscles is only to bring up the question what causes the spasm or incoördination. The solution of this question is the task the author has set himself in his first volume. His thesis is that the stammerer's difficulty is not one of phonation but the result of transient auditory amnesia, which produces the secondary conditions of mental confusion and fear, these secondary conditions being intensified in some cases by auto-suggestion. It is true that the prime cause of the auditory amnesia may be slight and limited to early life; it may even lessen and disappear, while the secondary effects remain as acquired habits. Such cases are readily amenable to elocutionary methods of treatment.

The first volume is devoted to a full analysis of the psychology of stammering as explained from this point of view. The author reviews the physiology of verbal images and passes on to a consideration of the pathology of brain-centres producing failure or defect in speech, visual amnesia, aphasia, agraphia; in fact, the whole range between mental imagery and voluntary speech. There is nothing new in these chapters, but the material is culled from sound authorities, and
written in well-balanced, simple
chapter which carries least conv
fear. A good deal of material is i
has no proper place, especially th
Graves's disease taken from Mr. Havelock Ellis and Dr. Hector Mackenzie, which has no real connexion with fear at all, except in so far as fear may cause acute distension of the thyroid, as noted by Dr. Leonard Guthrie. There is no doubt, however, that fear does form a secondary factor in stammering, and increases the incoördination, whether that be psychological or physiological.

The second volume gives a review and criticism of the various methods of training employed in the cure of stammering. These consist in variations of special vocalisation and voice production. A large number of these methods consist essentially in rhythmic practice of enunciation, the syllables being spaced by a mechanical device, such as a metronome. The author's sketch of the methods he has selected is valuable, although his opinion of their worth is not high. But in spite of his belief in the
of the disability, his estimate
y psychological methods is no
purely phonetic methods. On
the whole the treatment of stammering by
has been a failure; and the result of
t to apply the psychoanalytic process
o stammering has been in most cases
a "glossary" which is
it consists of 345 pages
s, some of which are
o most ordinary terms.
Who would start to read a book of this pretension who did not know what a "cent" means, or the meaning of "chorea," the "clavicle," or a "circular letter," to select one page at random? It would be preferable to use the word "indisputable" rather than "apodictic," leaving the unfortunate reader to look it up in the glossary. Further, it is quite doubtful if "apodictic" does mean indisputable, though Kant appears to have employed it in this sense. Aristotle and Philo, who both used the word, appear to have meant "capable of demonstration" or "explicable from evidence regularly set forth."

A Guide to the Mental Deficiency Act, 1913.

By JOHN WORMALD, Solicitor, and SAMUEL WORMALD. With a Preface by T. EDMUND HARVEY, M.P. London: P. S. King and Son. 1913. Pp. 155. Price 5*s.* net.

THIS book contains a legal and general exposition of the Mental Deficiency Act, 1913, together with suggestions on organisation for local authorities and others, by the authors, the senior of whom was for many years chairman of industrial schools and special schools, and the boarding-out and care committees for the mentally defective in Leeds. It should prove useful as an explanatory volume for those desiring to obtain a general idea of the objects of the Mental Deficiency Act, and of the means which it provides for carrying them out. These will be found set out in clearly written articles by the authors preceding the full text of the measure. It is, however, to be regretted that the convenient method usual in legal text-books of also annotating the various sections and appending to them the results of the authors' study in the form of explanatory notes should not have been followed, even though in the case of a new law these have to be more or less tentative in character. The index would then naturally have referred the reader directly to the sections
that which he might desire to in-
As it is, he will find himself only
the index to statements or expressions
hors' opinion in their prefatory article.
It would be more useful, for example, to a justice of the peace or a medical practitioner seeking to ascertain his powers in particular circumstances to be put in touch with them at once, than for the former to find that "justice of the peace" is not a title in the index at all, or for a medical man to find no reference to the duties imposed on his profession by the Act, *but only to a* recommendation of the authors as to the forming by a local authority of a panel of medical practitioners specially qualified to deal with mental diseases.

LIBRARY TABLE.

The Illustrated Medical Dictionary. By W. A. NEWMAN DORLAND, A.M., M.D. Seventh edition, revised and enlarged. 1913. Pp. 1107. Price 19*s.* net.——*The Pocket Medical Dictionary.* Edited by W. A. NEWMAN DORLAND, A.M., M.D. Eighth edition, revised and enlarged. 1913. Pp. 677. Price 5s. net. London and Philadelphia: W. B. Saunders Company.—Of the making of words, as of books, there is no end, and it is safe to affirm, as regards new medical words, at any rate, that fully half of them are entirely unnecessary, and more than that proportion are formed in defiance of philological principles, an intelligent attention to which would make them more or less self-explanatory, at least to those whose linguistic education has been properly conducted. However, the words are made and occur in medical literature, and as they do not explain themselves lexicographers find their time fully occupied in providing us with frequent revised editions of their dictionaries. "Dorland's" is well and favourably known for its clear type and easy reference, its general accuracy, and its completeness—we say nothing of its spelling, which in the absence of an equally enterprising English medical dictionary has to be endured. Its modernity is shown in the fact that since the last edition appeared, some two years ago, over 5000 new medical terms, particularly in the fields of physiology, pathologic chemistry, serology, and experimental medicine, have called for definition. The pocket medical dictionary is inexpensive and likely to prove of service to medical students, nurses, and others. It, too, like the larger book, has been increased by the addition of a large number of new words coined in the more recent branches of medical science.

Medicus. Guide-Annuaire des Etudiants et des Praticiens, Médecine, Chirurgie, Odontologie, Pharmacie. 41e Année, 1914. Rédaction et administration. Paris, 41 Rue des Ecoles. Pp. 1740. Price 5 francs.—We welcome the new edition of *Medicus*, which fulfils something the function for France that Churchill's Medical Directory does for Great Britain. It is divided into six parts, of which the first gives the details of medical, dental, and pharmaceutical schools and education, the services of the various hospitals and scientific institutes and colleges, learned societies, and so forth in Paris; the second, similar information for the provinces and the colonies; the third, an account of medical education and colleges in foreign countries; the fourth, a dictionary of medical law and jurisprudence; the fifth, information concerning the practice of medicine and pharmacy and the public medical services; while the sixth is a medical directory of doctors of medicine, officiers de santé, specialists, surgeon dentists, dentists, and pharmacists in Paris, the Seine, the [illegible] the colonies respectively. The [illegible] is an addition this year, only stomatologists having appeared under this heading in the 1913 edition. Each of these lists is divided into two parts, an alphabetical list of names and a local directory. There is an excellent index.

Mechanical Treatment of Abdominal Hernia. By WILLIAM BURTON DE GARMO, M.D., Professor of Special Surgery, New York Post-graduate Medical School and Hospital. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 147. Price 6s. net.—This book is stated by the author to be primarily intended for those persons who have to fit patients with trusses and yet have no medical knowledge, but as it contains a large amount of important and indeed interesting matter on the subject of trusses which is not to be found in the ordinary text-books of surgery, we think that it should prove of service to many medical men. Only too often a medical man merely sends the patient with a hernia to the instrument maker, and does not trouble to see that the truss supplied is suitable in principle and that it fits well. Necessarily, the modern extensive performance of the radical cure of hernia has diminished the use of trusses; but there are cases where an operation is considered unadvisable or where it is refused by the patient, and therefore a knowledge of truss-fitting is of importance. The book is good of its kind. Apparently this is a second edition.

MISCELLANEOUS VOLUMES.

AGAIN a series of books on hygiene, public health, and pharmacy, in continuation of those dealt with last week, [illegible] considered together here. Six important [illegible] health are dealt with in a small book entitled *Aids to Public Health*, by DAVID SOMMERVILLE, B.A., M.D. Belf., D.P.H. Cantab., M.R.C.P. Lond., F.C.S. (London: Baillière, Tindall, and Cox. 1913. Pp. 146. Price 2*s.* 6*d.* net.) They are water, sewage, soil, air, foodstuffs, and antiseptics and disinfectants. The materials are quite up to date, as is evidenced in the references to the Permutit system of softening water, to the recent conclusions and recommendations of the Sewage Commission in regard to the purification of streams, and to Hill and Haldane's work on ventilation. The chapter on antiseptics and disinfectants claims more pages than any other subject, and considering the space at the disposal of the author is fairly exhaustive. There is a printing slip on p. 127. In the section on foodstuffs the author has included some observations on the newly discovered constituent of foods—viz., the vitamines, which appear to be developing considerable importance in regard to the dietetic value of foods.

An interesting account of the methods of disinfection used in practice is given in *Disinfection and Disinfectants*, by M. CHRISTIAN, the physician-in-chief at the Royal Institute for Infectious Diseases, Berlin, translated from the German by CHARLES SALTER (London: Scott, Greenwood, and Son. 1913. Pp. 107. Price 5s. net.). The subject is divided into three sections—viz., physical disinfection (dry heat, moist heat, hot liquids), chemical disinfection (liquid and gaseous disinfectants), and combined systems of disinfection (as in Gartner's method of disinfecting books, and the steam and formalin vapour apparatus for disinfection on a large scale). In regard to chemical disinfectants only a general idea is given as to the methods of fixing their germicidal value. The object of the book, however, is a practical one, and the information presented should be of distinct service to those who require to carry out disinfection in all its details in an effective and practical manner.——Previous editions of *The Food Inspector's Handbook*, by FRANCIS VACHER (London: The Sanitary Publishing Company, Limited. 1913. Sixth edition. Pp. 311. Price 7*s.* 6*d.* net), have received favourable notice in our review columns, and the issue of the present edition, occasioned by the exhaustion of the fifth early last year, shows that the book is appreciated. The author has taken the opportunity thus offered of revising the text and bringing it up to date. In proof of this assertion, references are given to the recent regulations of the Local Government Board in regard to the sale of milk and cream, and particularly to the use of preservatives. The chapters on meat inspection and the diseases of animals reveal an intimate practical acquaintance of the subject, and this section, admirably illustrated as it is with examples, must prove particularly valuable to the food inspector. The author shows himself an expert in this department of inspection.——In *Home Health and Domestic Hygiene*, by Sir JOHN COLLIE, M.D. Aberd., and C. F. WIGHTMAN, F.R.C.S. Eng. (London: George Gill and Sons. 1913. Pp. 189. Price 9*d.* net), we find a clearly written little work intended for the use of lecturers and students attending home health and hygiene classes. It covers a good deal of ground in homely terms, the chapters in sequence being: The Air, Ventilation, Water, The Dwelling House, Food and Beverages, Infants, Preparation of Food, Clothing, Personal Hygiene, Exercise, and Communicable Diseases. Sensible observations on the hygienic aspects of these subjects abound, and altogether the book amounts to a very neat presentation of important principles which, if they were observed, would help people to live healthy lives

The aim of *Certificate Hygiene* edited by the Rev A W PARRY, M A, B Sc, Principal of the Training College, Carmarthen (London University Tutorial Press, Limited 1913 Pp 113 Price 1s
of the main principles of
in the syllabus required
examination, 1914 It ap
material taken from "Sc
and "Physical Education, by Mr W 1 ...ipton, B Sc The book deals with such subjects as work and rest, physical and mental deficiencies, infectious diseases and accidents, personal hygiene, school buildings and furniture It possesses the usual defects of attempts made by laymen to simplify the works of professional writers As Mr Parry is not responsible for the accuracy of the material it would serve no good purpose to point out wherein it is
is attempted to
the section on
be commended
is, book will be
achieved if it enables the teacher to deal with ordinary matters affecting health in the light of sound common sense This, we are afraid, it cannot possibly do, although it might achieve another purpose—namely, that of putting a teacher through his hygiene examination We cannot approve of this class of book ——In *Principal Drugs and their Uses,* by A PHARMACIST (London The Scientific Press, Limited 1913 Pp 95 Price 1s net), th
is intended for nurses This
principally in tabular form, ir
respectively, "Drug," "Nature," and "Use," the drugs being considered in alphabetical order There is appended a useful chapter on Antidotes to Poisons and an introductory section on Poisons and Dangerous Drugs The paragraphs are capably written, and the comments on the applications of the various drugs are sound ——The Benger's Food Co, Limited, have issued an interesting and instructive monograph on *Alimentary Enzymes* The processes of digestion are clearly described and an account of the part played by ferments and activators is included The book is evidently compiled by a sound physiological writer, and the fact that the merits of the well known foods and digestive preparations of this firm are brought forward does not detract, in our opinion, from the scientific character of some well written chapters When the physician chooses to use these preparations he has the advantage of knowing exactly what they are and the directions in which they may be of value.

New Inventions.

A POSTERIOR RHINOSCOPE

THIS instrument consists of a tubular spatula at the end of which is a mirror that can be bent to any angle necessary for examination (Fig 1) The spatula is intended for use with a Brüning handle, which it is made to fit It is used as follows The ends of a piece of rubber cord or tubing of small diameter, about 18 inches in length, are passed one through each nostril and brought out through the mouth, they are then passed through the loop as shown in Fig 2 The soft palate is thereby drawn forward (in the same manner as the tongue is in examination of the larynx) and so held in position. This gives ample room for the introduction of the rhinoscope Sufficient anæsthesia is produced by spraying the floor of the nose with a 3 per cent solution of cocaine and the application of a 5 to 10 per cent solution to the soft palate If a general anæsthetic is used, it is advisable to inject a ¼ gr of morphia an hour before the operation The examination of the post nasal area is considerably simplified by the use of this instrument It gives an excellent view of the parts so that the passing of instruments into the Eustachian tubes, operations on the sphenoidal sinus, and in fact almost any operation in the post nasal area are no longer in the nature of a step in the dark if this method is applied It will in many cases obviate the necessity for splitting the soft palate in operations on this area

FIG 1

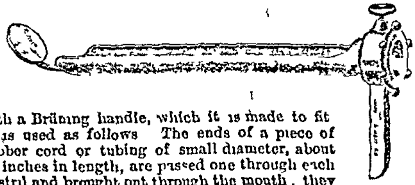
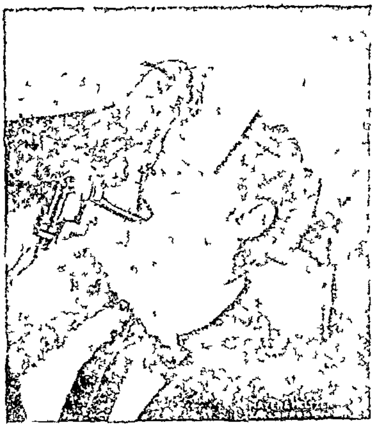


FIG 2

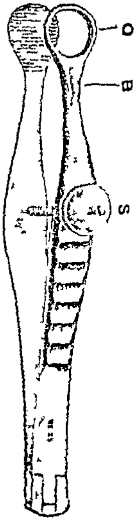


I am indebted to Messrs Mayer and Meltzer, of Great Portland street, London, W, for their assistance in carrying out my idea WILLIAM LLOYD

Brook street W

TARSAL CYST FORCEPS

THE frequent use of tarsal cyst forceps in ophthalmic surgery has led me to design one with a view to amplifying, if possible, the advantages of such an instrument The particular points about the instrument which is here illustrated are as follows —(1) The size of the opening shown at O is sufficiently great to allow of dealing with a tarsal cyst of large size (2) Both the upper and lower aspects of the blades are serrated to prevent slipping (3) The blades are especially shaped as shown at B to allow for the thicker lid edges (4) The required pressure is exerted by means of a thumb screw S, thus permitting not only more accurate adjustment of the forceps but also more convenient and gentle manipulation during application and removal than is possible with any form of rachet arrangement



The forceps has been made according to my instructions by Messrs Weiss and Son, of Oxford street, London, W

ARTHUR GREENE, M D Dub, F R C S Irel

Norwich.

THE LANCET.

LONDON: SATURDAY, DECEMBER 13, 1913.

Advertising and Canvassing under the National Insurance Act.

AMONG the matters with which the General Medical Council had to deal at the session recently concluded one of the most important was undoubtedly the question of gross abuses that have arisen under the National Insurance Act in connexion with the advertising of the claims of certain practitioners by Approved Societies and institutions which employ canvassers to persuade the public to enter their folds. It is particularly annoying to find this abuse showing signs of again becoming rampant, for in the minds of many the arrival of the National Insurance Act was to abolish such scandals. Advertisements of the merits of the individual practitioners to whom they paid salaries—and as a rule very bad salaries—formed a reprehensible practice of the medical aid associations, whose prevalence was revealed during the long contest known as "The Battle of the Clubs," and one of the arguments invariably employed in favour of the National Insurance Act, while that measure was making its stormy progress towards the Statute Book, was that with the disappearance of contract practice of the kind associated with medical aid associations, we should have a cessation of unprofessional methods of canvassing. It is quite clear from the recent proceedings at the General Medical Council that the old abuses exist strongly among us, and the Council have done wisely in giving prominence to the fact that the disciplinary injunctions, which they had laid down some years ago in connexion with the tactics of the secretaries of medical aid associations, can and will be employed with full rigour against institutions working as Approved Societies under the National Insurance Act, if and when these institutions employ the familiar and discredited tactics.

For it will be remembered that the objectionable methods of various of these bodies led in 1899 and again in 1905 to the publication by the General Medical Council of warning notices to the effect that, inasmuch as certain registered medical practitioners "with a view to their own gain and to the detriment of other practitioners" had acquiesced in the use of objectionable advertisements and "the employment of agents or canvassers for the purpose of procuring persons to become their patients," such practices were now found "to be contrary to the public interest and discreditable to the profession of medicine." Any medical practitioner resorting to these practices was warned accordingly by the Council that he was liable to have his name erased from the Medical Register "for infamous conduct in a professional respect." It is now well known that some of the Approved Societies working under the Act have had resort exactly to these practices. They have advertised the merits of certain practitioners at the expense of other practitioners, and they have canvassed the public in a way that has brought these practitioners to the disapproving notice of the General Medical Council. And the evil, the existence of which has been referred to in our columns several times of late, appears likely to grow if it is not stopped at once. If collective contracting out of the Act, for the formation of institutes run by laymen, becomes common we may be sure that all the old troubles connected with advertising and canvassing will become common also. Our Special Commissioner this week describes in another column the ominous development in South Wales of this contracting-out movement, and it behoves the medical profession to assist the General Medical Council by setting their faces against any degradation of our calling.

In face of this serious position we ask our readers to take heed, for the General Medical Council is in earnest in its intention to stop these discreditable practices. In this attitude the Council is supported by the views of all [illegible] [illegible] members of the medical profession, and the blame for such occurrences cannot be placed wholly on the shoulders of the erring associations, but must lie to a great extent at the doors of the practitioners in question. For the whole medical profession ought to know through the warnings of the General Medical Council, which have been repeatedly published in our columns and in those of the *British Medical Journal*, if not through an instinctive sense of professional right and wrong, that such actions as advertisement and canvassing must be regarded as strictly unprofessional. It is open to the secretaries of Approved Societies to say that they do not know or that they do not care what is or is not professional, but a medical man who takes up this attitude has no one but himself to blame if he finds the General Medical Council deciding that he no longer forms a part of that profession. Professor SAUNDBY'S letter, which we publish this week, while it only pointed attention to the abuses which we have described, makes it quite clear that medical men can only serve offending societies at the gravest risk to themselves.

The Mental Deficiency Act.

ALTHOUGH the text of this measure is brief in comparison with that of many modern Acts of Parliament—there are only 43 pages—the Mental Deficiency Act, 1913, is of considerable scope. It is a good example of legislation by reference, since on the one hand it delegates to the Secretary of State extensive powers of making regulations, and on the other it directs the application of certain sections of the Lunacy Act, 1890, to the cases in point. As a result, the Act has little in the way of superfluous wording, but the intelligibility of the official text will be assisted by some analysis of certain of the clauses. Since the Act aims at making further and better provision for the care of feeble-minded and other mentally defective persons, it will be convenient to begin by considering who are the persons who come within the meaning of the Act. The terms embrace: (A) An idiot or imbecile whose parent or guardian takes action; (B) a feeble-minded person or moral imbecile under the age of 21 years whose parent takes action; and (C) an idiot, imbecile, feeble-minded person, or moral imbecile if neglected, criminal, a drunkard, the mother of an illegitimate child, or a "defective child." It is perhaps worthy of note that the legal presumption of an idiot's incapacity ever to attain sufficient understanding to enable him to look after himself or his property is not referred to. It may be remarked, also, that although the feeble minded are described as requiring "care, supervision, and control for their own protection or for the protection of others," and moral imbeciles as suffering from "some permanent mental defect," such defectives escape control at the age of 21 years unless they also fall within Class C. Members of all three classes may be placed in an institution for defectives or under guardianship, the procedure being the same in the two cases. It seems to be contemplated that some defectives will remain at large, for Section 30 imposes upon the local authority the duty of providing suitable supervision for such persons, and Section 48 sanctions contributions towards the expenses of societies assisting defectives not in institutions without requiring that such defectives shall be under guardianship.

As regards Classes A and B, control of the defective is obtained without the making of an order. In both cases there are required a statement signed by the parent or guardian and certificates in the prescribed form signed by two duly qualified medical practitioners, one of whom shall be a medical [illegible] the local authority or the Board (i.e., the Board of Control), while for cases in Class B there is also necessary the signature of a judicial authority, who, it appears, need not see the person. For Class C the procedure is that of detention under orders. The order takes one of the following forms: (1) An order made by a judicial authority on a petition presented by a relative or friend, the local authority, or an officer of the Board of Control. The petition must be accompanied by two medical certificates (one given by an "approved" practitioner) and by a statutory declaration. The judicial authority must see the [illegible] intervene if the [illegible] im. (2) An order made by a court on satisfactory medical evidence. The court may, however, direct that a petition be presented as in (1). (3) An order made by the Secretary of State. A certificate of two duly qualified medical practitioners is a necessary preliminary. An order requires renewal at the end of the first year, the second year, and thereafter every five years, and the case is to be "reconsidered by the visitors" when the patient reaches the age of 21 years, with right of appeal. Cases not under orders require reconsideration at like intervals. Our hope in the usefulness of the Mental Deficiency Act lies not only in the additional powers it confers, but also in the alteration which it has made in professional views. It may well happen that an effect of the passing of this Act will be an increased utilisation of the provisions of the Lunacy Act if these prove in practice to be cheaper or more convenient. The introduction of the system [illegible] an experiment of which the [illegible]. Here it will suffice to note that the powers of guardians, in this special connexion, are duly defined; that the local authority may be called upon to provide guardianship; that an order for guardianship may be altered so as to enable the case to be sent to an institution; that a guardian may resign or be removed or replaced by the judicial authority, and that when a court makes an order for guardianship the guardian has to enter into a recognisance. Defectives, according to the class to which they belong, may be placed under control in one of the following establishments. 1. A State institution. This is intended for defectives of dangerous or violent propensities. 2. A certified institution. This description covers buildings provided by the local authority directly or by arrangement with boards of guardians, the Metropolitan Asylums Board, the Prison Commissioners, or other authority. The use of Poor-law premises does not imply that the defective will be deemed to be in receipt of Poor-law relief. The local authority is absolved from certain of its responsibilities if Parliament does not contribute part of the cost. 3. A certified house. No contributions from Parliament or the local authority are payable in this case. 4. An approved home. 5. A private house. It appears from

Section 51 that one defective or alleged defective not under order may be received into an ordinary household if due notice is given to the local authority and the Board of Control. A certain provision of certified institutions, certified houses, and approved homes will be made as soon as the Act comes into operation owing to the repeal of the Idiots Act, 1886, and the taking over of the hospitals, institutions, or licensed houses registered under it. Possibly, too, some of the religious bodies may provide accommodation if, as seems to be assumed in Section 17, there exist sects which are anxious to claim mentally defective persons as members of their respective communities.

In so far as provision has hitherto been made in London for persons belonging to the classes mentioned in the Mental Deficiency Act, this has been done chiefly by the Metropolitan Asylums Board, and Section 30 enables that Board to continue its work as before. The perpetuation of the system of dual control has aroused anticipation of confusion and difficulty in the administration of the Act. It is perhaps the consideration that much of the accommodation for which the local authority is to be responsible will be provided indirectly that has decided the conditions under which the visiting of institutions is to be carried out. It appears from Section 40 that the asylums committee of the local authority, even though constituting, with the necessary addition, the "committee for the care of the mentally defective," will not be the visiting committee as in the case of asylums. Instead of this the visiting is to be effected on the lines of the visiting of licensed houses under the Lunacy Act. For institutions outside the immediate jurisdiction of the Board of Control the visitors will visit six times a year, while within that jurisdiction it is to be presumed that Commissioners or their inspectors will visit six times a year. The discharge of defectives not under order may be effected by the parent or guardian, or by the managers of an institution or home, on the conditions stated in Section 12. By "guardian" is not here meant the person under whose guardianship the defective has been placed. For the discharge by the visitors or the Board of Control of defectives under order directions are given empowering the Secretary of State to make regulations as to "the discharge of patients from institutions."

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Constitutional Changes in the British Medical Association.

AT the Representative Meeting of the British Medical Association held in London at the close of last week it was decided by a clear, though close, majority of more than two-thirds of the Representatives that the annual subscription of the Association should be raised to 2 guineas. The financial reasons for the action of the Council in recommending this policy to the constituency have been fully published in the columns of the *British Medical Journal*, and Dr. J. A. MACDONALD, the chairman of the Council, in bringing the matter before the Representative Meeting, put the alternative to the suggested innovation strongly before his audience. He showed that it was not possible for the Association to continue work of the scope which it had undertaken during the past few years without greater financial support, and said that the members of the Association must decide whether they would have curtailment of the work or would bear a heavier tax upon their purses. The support to the proposal of the Council, though not sufficiently large to disguise that the views of the Association are divided, was given in a very hearty fashion.

That the practical issue of the change is not to be calculated upon immediately or exactly is shown by the attitude of the Representatives towards a further proposal to support a fighting fund outside the British Medical Association at an annual subscription of 4 guineas. The scheme brought forward by the newly constituted National Insurance Committee of the Association was that 10,000 members, and presumably more if more were of that mind, should subscribe 4 guineas annually, and that the resulting income should be administered so as, at one and the same time, to form a reserve fund for compensation purposes and a fund for the organisation of medical defence, with properly salaried officers to carry out the work thus indicated. Throughout the scheme the principle was acted upon that those who do the work of the medical profession—whether Local Medical Committees under the National Insurance Act or members of the Representative Body of the British Medical Association—should have their expenses paid by the medical community at large. The proposal proved acceptable in theory to a substantial majority of the Representative Body, but it was resolved to take no steps to organise these novel undertakings until the result to the Association of the raising of the annual subscription for ordinary purposes had become apparent. The Council was instructed to consider the whole question during the ensuing months and to submit its findings to the general body of the members in time for the matter to come before the annual meeting of the Representatives in July next. Any definite decision was thus put off for at least seven months. The anxious nature of the occasion was in this way made manifest, but the feeling of those whose experience in the affairs of the Association gives them the best position from which both to realise the meaning of the present circumstances and to foreshadow what is to come is a distinctly optimistic one.

TO OUR READERS.

Will contributors please note that THE LANCET *of Dec. 20th will go to press on Wednesday, Dec. 17th —a day earlier than usual; and* THE LANCET *of Dec. 27th will go to press on Tuesday, Dec. 23rd— two days earlier than usual?*

Annotations.

"Ne quid nimis."

THE PREVENTION OF HUMAN TRYPANOSOMIASIS IN AFRICA.

THE many difficulties associated with the prevention of sleeping sickness in tropical Africa have hitherto seemed almost insurmountable, and in consequence some experts have taken a somewhat gloomy view of the situation. These difficulties have not been diminished by the discovery lately that other trypanosomes besides T. gambiense give rise to the human disease, and that the infection is conveyed to man by other species of tsetse fly than glossina palpalis. In the circumstances it is gratifying to find that an eminent expert well acquainted practically with the subject has recently spoken in more hopeful terms respecting the possibility of preventing the malady. We refer to an address given last autumn at Washington before the Fifteenth International Congress of Hygiene and Demography, and now circulated in pamphlet form by Professor John L. Todd of Montreal, on the Prevention of Human Trypanosomiasis in Africa. This expert does not shut his eyes to the enormous difficulties of the case, but he expresses the opinion that although there is no single means by which sleeping sickness can be prevented there are several methods by which the disease can be combated; and it is probable that a combination of such methods, embodied in a series of well-administered preventive measures, might ensure a comparatively complete control of the malady, at any rate in some districts. Since some of the influences which help to achieve this control—e.g., clearing away of thick vegetation, reduction of the number of flies, better food and shelter for the natives, along with efficient medical supervision—are those which follow upon the opening up of the country by the European, it may be expected that as the settlement of districts advances the prevention of human trypanosomiasis will become progressively easier. It is generally admitted now that the opening up of the dark continent to commerce and trade in late years has resulted in the spread of sleeping sickness, but Professor Todd believes that the changed conditions following upon the European occupation of tropical Africa will before long do much to limit the extent of the mischief. For instance, the construction of railways will lead to a discontinuance of the passage of large bodies of native carriers, to whom in the past the diffusion of the disease from infected to healthy districts has been largely due. It is also pointed out that a great amount of the research work done during recent years has not been directed to increasing our knowledge of the methods likely to prevent spread of infection. There are still many points which need elucidation; especially is it necessary that search should be made for an efficient method of treating cases of human trypanosomiasis by drugs. The value of the trypanocides already discovered, such as atoxyl and the compounds of antimony, would appear to be sufficient warrant for continuing this search. It may be added that the results of the treatment of Europeans make it quite certain that n [illegible] ness can be cured if they [illegible] the early stages of the disease. The importance of [illegible] gradually educating the natives, particularly the rising generation, in the ways by which a healthier environment can be secured should not be neglected, for this may be made one of the strongest factors in effecting a permanent reduction in the incidence of the disease. In conclusion, Professor Todd maintains that a [illegible] parts [illegible] methc [illegible] continued investigation will result in the discovery of more efficient means. Whenever possible, he says, permanent methods of prevention, such as deforestation and the education of the natives, should be employed in preference to temporary measures, such as depopulation of infected districts. Since many wild animals, and especially large game,[1] are found to harbour human trypanosomes, it would probably be a wise measure to destroy all wild animals in the near vicinity of settlements in certain areas and to protect all domestic animals against the bites of tsetse flies.

INTERMENSTRUAL PAIN.

THIS condition is one which is often very distressing to the patient and very trying to the practitioner who finds that all his remedies are of no avail. The name is applied to attacks of pain occurring usually at some definite interval after or before the menstrual period. In some cases, at any rate, the time of occurrence is so regular that the patient is able from it to calculate the date on which the succeeding period will occur; in other cases the pain occurs between the periods, but more irregularly. The condition was first described by Sir William Priestley as long ago as 1872. At that time very little was known with certainty as to its cause, and we know little more of the etiology at the present day. The pain occurs during the period of sexual activity and is apparently commoner in sterile women. Not infrequently there is a history of a preceding pregnancy or miscarriage, and sometimes, as in some of the cases recorded by Kelly, the pain has ceased entirely during pregnancy and lactation only to return on the establishment of menstruation. The most frequent time for the occurrence of the pain is during the second half of the intermenstrual period, and it would appear to be associated with the period which follows rather than with that which precedes it. As in the case recorded by our correspondent (see p. 1738), it generally lasts as a rule only one or two days, and, as in that case, the menstrual periods themselves are often regular and free from pain. Intermenstrual pain therefore is not usually associated with dysmenorrhœa. Its situation is most commonly in one or other ovarian region, but it may be located in any part of the lower abdomen. Very varying pathological conditions have been found in association with these attacks of pain; for [illegible] ments of the uterus; fibroid tumours of the uterus, but in a large number of the cases the pelvic organs are healthy to ordinary physical examination. When a definite pelvic lesion exists, in some of the cases its treatment has resulted in the cessation of the pain but not always, and while some of the cases appear to be dependent upon such abnormalities as a displacement of the uterus, in the majority of the cases no pelvic lesion can be found, and the result of treatment is most unsatisfactory,

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[1] THE LANCET, Nov. 29th, 1913, p. 1560.

D[illegible] rule are quite us[illegible] of thyroid and ovarian extracts is generally equally inefficacious. In some cases relief has followed the removal of one or both sets of uterine appendages, but when only one ovary is removed the result is often most disappointing. Indeed, in no case should such an operation [illegible] until all other methods of treatment [illegible] it is not justifiable to remove both the ovaries without at any rate first trying the result of treatment with X rays or of removing the uterus. In this class of case, however, it is not likely that hysterectomy will give the relief it affords in cases of uterine dysmenorrhœa, because all the available evidence points to the origin of the pain being the ovary and its actual cause painful ovulation. This view was originally expressed by Priestley, and is probably the correct one. Indeed, the little we know of this curious condition seems to show that it is related to the ripening of the Graafian follicle and the approaching discharge of the ovum, and its association with attacks of pelvic peritonitis is supposed to be due to thickening of the tissues on the surface of the ovary or the production of adhesions round it by the previous inflammation. If this view is correct the failure of the ordinary methods of treatment to relieve the pain is readily [illegible] portant that a larger number o[illegible] be recorded in greater [illegible] our knowledge of the matter ma[illegible]

THE USE OF THE CANE.

AT the Westminster police-court recently Mr. Horace Smith heard one of those cases of not infrequent occurrence in which a master in an elementary school is [illegible] ssaulting a pupil by caning him. [illegible] case, after hearing evidence on both sides, the learned magistrate was of the opinion that no unnecessary violence had been used, and dismissed the summons. The result appears to us to be a satisfactory one because the defendant, a pupil teacher, was a young man to whom conviction for such an offence would have been a serious matter occurring at the outset of his career; because it would not be pleasant to find little boys under an educational system as elaborately organised and carefully supervised as ours were liable to be cruelly punished for not learning their lessons; ar[illegible] corporal punishment may [illegible] among boys which it would be very difficult to replace satisfactorily. In the case [illegible] stories were told—that of the boy, [illegible] who said that he was laid across a [illegible] because he could not do the sums [illegible] of the teacher, who said that the boy was impudent, that this was a repetition of former misconduct, and that the cane was applied while he was sitting at his desk. That the boy had been impertinent was apparently admitted. With regard to the extent of the [illegible] was given to the eff[illegible] heals upon the boy's back when his father took him in the evening to a medical man after he had complained a second time; [illegible] had told of the incident ir[illegible] had not thought enough of the story to examine him then. The marks were evidently sufficient to show that he had been chastised with some severity. Mr. Horace Smith, a magistrate of considerable experience, took the view that the severity was deserved, and that the parents had formed an exaggerated opinion of the amount of force that had been used. A blow from a cane causes at the time an appreciable amount of pain (which, by the way, is what it is intended to do), but it leaves behind a mark quite out of [illegible] ts formidable character to the amo[illegible] which it causes after the first s[illegible] endured. If any one doubts this, having perhaps avoided the opportunity to observe it in the course of an exemplary boyhood, the experiment is easily made. Any small boy will be willing to do his share by inflicting upon the seeker after truth a sharp cut or two, the results of which will no doubt be distinctly felt for a time, but only for about an hour, but there will be visible on the well-protected and tender skin of the back for some days wheals which would harrow the heart of any mother. In our big public schools, the sort that are called public because they are strictly private, canings are still inflicted, though on rarer occasions than formerly, by masters, and by senior boys upon their juniors, such as no teacher under the Board of Education could inflict and retain his position; and this is quite right, for the subjects of a compulsory and rate-paid routine must be specially protected. In proprietary schools, however, the use of other forms of punishment is comparatively feasible. In those in which small boys, often drawn from the roughest and least disciplined classes, attend for a few hours at a time, the need of a penalty which can be exacted on the spot and done with must necessarily make itself felt. No one wishes that it should take the form of a thrashing administered brutally or in the heat of temper, but a caning administered carefully and quietly may have a very salutary effect.

FATAL MENINGITIS FIFTEEN YEARS AFTER A BULLET WOUND OF THE BRAIN.

IN the *Archives of the Middlesex Hospital* for October Dr. W. Pasteur has reported a remarkable case in which fatal meningitis occurred 15 years after a bullet wound of the brain. A married man, aged 39 years, a barber, was admitted in a state of semi-coma following [illegible] The history, subsequently [illegible] had always been delicate, but had not had any serious illness. Fifteen years ago he attempted suicide by shooting himself with a revolver in the middle of the forehead. He was treated at St. George's Hospital. Of his subsequent history nothing was known except that he was treated a few years ago at the Middlesex Hospital for an abscess of the forehead. His present illness began nine days before admission with headache, which had grown progressively worse in spite of treatment. While waiting to be seen in the out-patient department he had a general convulsion. On examination he was semi-conscious and ground his teeth occasionally. The pupils were equal and active. The knee-jerks were present and equal. There was no obvious sign of paralysis. The breathing was easy and regular. The pulse was 132, regular, and of normal tension. Soon after being put to bed three general convulsions occurred in rapid succession. A specimen of urine obtained shortly afterwards contained a little albumin. During the evening he remained semi-conscious, and during the night [illegible] The respirations rose to 72, [illegible] of the surface. Some urine drawn off towards morning was brightly coloured with blood. The coma deepened and of creamy pus. Except under the left frontal lobe, where the convolutions were adherent to the membrane, the chang

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wanting, giving rise to a small slit. The orbital plate of the frontal bone was also defective for an area half an inch square, and at this spot the mucous membrane was reddened, and was probably the channel by which meningeal infection occurred. A small-bore bullet was found encapsuled in the under surface of the left temporo-sphenoidal lobe. The nasal sinuses showed well-marked inflammation, and the left ethmoidal sinuses were somewhat reddened. The kidneys had the appearances of chronic tubular nephritis with an acute process superadded. Dr. Pasteur points out that viewed by the light of the post-mortem findings the case presented no difficulty. But on admission, in the absence of any previous history, the diagnosis was by no means easy. The symptoms might well have been due to uræmia. The long interval since the injury naturally produced caution in accepting it as the cause. The occurrence of fatal meningitis 15 years after a bullet wound renders the case of considerable medico-legal interest. During life the diagnosis of meningitis was favoured chiefly on the grounds of the sus-

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could be used to account for the pyrexia. It is interesting that the state of the kidneys found post mortem might well have given rise to symptoms of uræmia, and Dr. Pasteur thinks it possible that this acted as a contributing cause of the convulsions.

GLANDERS IN HUMAN SUBJECTS.

GLANDERS is a disease which excites interest by its variable character, the difficulties in its diagnosis, its grave danger to life, and the risks run by those brought into contact with cases, whether occurring in man or animals. This interest has been further increased by the occurrence within recent years of a number of cases due to the accidental inoculation of workers in bacteriological laboratories. The three cases recorded in this number of THE LANCET by Mr. H. M. M. Woodward and Mr. K. B. Clarke exhibit the confusing characters of the disease in a striking manner; the symptoms varied in the several cases, and were very unusual in character, as was also the source, at least in one case, from which the bacillus was isolated. The important features of the cases are clearly indicated and discussed by the authors of the paper, and they appear to believe that cases of glanders are more numerous than is generally thought. It is, unfortunately, not stated within w

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all the cases, the results being summarily recorded. It would be of great interest if the

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e details, which, in view of the unusual source of the culture in the first case, and the existence of a single cerebellar abscess from which alone the organism could be isolated in the last, would be of considerable bacteriological interest.

JOHANNES EVANGELISTA PURKINJE.

NOW that the study of the history of medicine is coming to its own and

being kept green, we sh

collect for us from sc

about men of whom very little is generally known. We all have a nodding acquaintance with most of the historical leading lights of medical science, but there are some who are to us merely names derived from eponymous terms descriptive of parts of the body, diseases, methods, and so forth. Dr. Isaac Ott, of Philadelphia, in his recent introductory address at the opening of the Medico-Chirurgical College of that city, has done service in regard to Purkinje, with whose name we are all, of course, familiar, though for many of us probably it has little if any connotation beyond giving a name to certain cells and fibres. Johannes Evangelista Purkinje was born in 1787 at Libochowitz, in Bohemia, on the northern border of Austria, a province which also produced Mendel and Czermak. He graduated at Prague in 1819, when he became assistant in the anatomical institute. He became acquainted through Goethe with Alexander von Humboldt, who, in conjunction with Rast, the anatomist, recommended him for the chair of physiology at Breslau, to which he was appointed in 1821, at the beggarly stipend of 800 thalers per annum, out of which he had to provide for demonstrations and experiments. There was practically no provision for instruments or apparatus, and when in 1830 Purkinje asked the curator for a microscope, which then cost 200 thalers, the latter replied that so costly an instrument would necessitate a joint requisition from the professors of physics, astronomy, anatomy, and botany, and himself! It was obtained for their joint use, but two years later Purkinje succeeded in establishing a claim to its exclusive use. Now, however, another difficulty faced him—that of a suitable demonstration room, for his room in the old astronomical institute had been taken from him through the animosity of Otto, the professor of anatomy, who from the first had taken exception to his speech (his native tongue was Czech), and considered that though he might be a useful *privat-docent*, he was not up to professorial standards. However, another room was found for Purkinje, who

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aboratory assistant and a

towards the institute, but

the ground that no German

university had a separate building for physiological work. Even when the new anatomical institute was built, Otto forestalled Purkinje by claiming the only available room for his official residence. But Purkinje was not to be daunted. He arranged a physiological laboratory in his private residence, and there he continued the work with which his name is now associated all over the scientific world. To refer only to some of his discoveries, Purkinje's figures, his study of the curvatures of the eye, his method of lighting up the retina (in some sort anticipating Helmholtz), his observations on vertigo, his general idea of the cell—published two years before Schwann's classical work,—the Purkinje vesicle in the ovum, the Purkinje corpuscles in bone, the interglobular layer in dentine, the ciliary movement in the respiratory organs, the sweat glands and their ducts, the stomach glands, the touch papillæ, the action of the pancreatic juice on albumin, all testify to his activities. A more liberal curator in 1836 obtained for Purkinje a grant of 3800 thalers and a site for an independent physiological institute which was opened in 1839—the first physiological institute in the world. Unfortunately the maintenance funds of the institute were not commensurate with the institute itself, and his subsequent work was mainly microscopical. In 1850 Hungarian politics took him to Prague, and his scientific labours were practically over. He died in 1869. His career was an example of the way in which a determined mind overcomes opposition and surmounts obstacles.

ERYTHEMA NODOSUM AND TUBERCULOSIS.

IN the gradual evolution of our conception of rheumatism as an infective process almost as definite and individual as tuberculosis or syphilis, some of those phenomena which were formerly regarded as rheumatic in nature have been examined in the light of more accurate knowledge and broader conceptions, with the result that they have dropped out of the rheumatic category and have not yet found their actual relationships. Prominent among these unclassified phenomena is erythema nodosum, regarded by some as a specific infection of itself, by others as a mere anatomical expression capable of arising in the course of any infection of a suitable grade of intensity. A third view which is making headway receives strong support from the case reported by Professor L. Landouzy in *La Presse Médicale* of Nov. 19th.[1] A domestic servant, 27 years of age, was admitted to the Laennec Hospital after a fortnight's illness beginning with fever and sore-throat and developing into a generalised arthralgia with erythematous nodes on the ankles, knees, and great toes. On examination these proved to be the characteristic lesions of erythema nodosum. A blowing systolic murmur was noted at the apex, which was regarded as organic because it persisted. There was moderate pyrexia, also persistent, and some little evidence of tuberculous infection of the apex of the right lung. These signs increased, and the cutaneous tuberculin test reacted positively. The blood of the patient was cultivated, and injections were made into the peritoneum of two guinea-pigs but without result. On the other hand, an erythematous node removed from the forearm the day following its appearance was examined with results of the highest significance. Histologically the appearances were those of an acute inflammation, most pronounced in the connective tissues lying immediately beneath the skin, and notably vascular and perivascular in its arrangement. Deeper still the fatty tissues were freely infiltrated by an inflammatory exudate abundant in cells and in fibrin. Predominant among the cells were the polymorphonuclear leucocytes, in which early evidences of regressive processes were noticeable. In addition to these cells, grouped in masses like small abscesses, there was a diffuse mononuclear leucocytosis, plasma cells being absent. The fixed connective tissue cells of the part had barely reacted, but the vascular endothelia displayed intense proliferative tendencies resulting on the one hand in the formation of new capillaries, on the other in partial or complete occlusion of vascular channels. No giant cells of the tuberculous type were discovered, but in a clot which filled one of the proliferating vessels the application of the Ziehl-Neelsen method of staining discovered acid-fast bacilli. Not only so, but a guinea-pig inoculated with emulsion made from another portion of the erythematous node showed evidences of tuberculous infection at the site of inoculation and throughout the whole body. Professor Landouzy claims with considerable emphasis that these observations prove that erythema nodosum is, in some cases at least, a septicæmic form of tuberculosis, a view which he has held and proclaimed for some years, but without such evidence as is afforded by the case which we have briefly reported above.

THE DEPENDENCE OF LEPROSY ON FISH EATING.

A DOCTRINE of the late Sir Jonathan Hutchinson which did not gain acceptance is that leprosy depended on fish eating. Yet there was none he advocated with more persistence during his long life. Indefatigable industry and all the resources of a subtle intellect, equally keen in observation and in deduction—and what clinician was so keen?—were exerted in vain. He marshalled an extraordinary amount of evidence —clinical, historical, and geographical—with his usual dialectic skill. In his old age, when most men would have considered their work done, he made two voyages—to South Africa and India—to in [illegible] matters on the spot. He mainta [illegible] hypothesis which explained all the facts was that leprosy was due to eating decomposing, badly cured fish. We need not enter into his arguments, as they are so well known. They can be found in full in his book "On Leprosy and Fish Eating."[1] That they are very strong cannot be gainsaid, but they failed to carry conviction because he could produce no evidence that the bacillus lepræ is any way associated with decomposing fish. While insisting that the "circumstantial evidence is overwhelming" that decomposing fish is the cause, he was not sure as to the manner in which it acted, and made several suggestions, without committing himself to any. As to the discovery of the bacillus in fish, "I am," he said, "much less sanguine than I was some years ago."[2] He suggested that its occurrence might be "exceedingly rare" and that contamination of the fish might be "usually effected by the hands of a leper fish-curer." Many regard this fish hypothesis as only an eccentricity of a great mind. But some who have come under its influence will remember that Hutchinson was many times right when the whole weight of opinion [illegible] ical acumen often [illegible] the range of the [illegible] ead with interest some recent observations which tend to supply the deficiency of bacteriological evidence of the fish hypothesis. In the *American Journal of the Medical Sciences* for November Dr. A. J. Smith, professor of pathology, Dr. K. M. Lynch, instructor in gross morbid anatomy, and Dr. D. Rivas, assistant director of the Laboratory of Tropical Medicine, University of Pennsylvania, have published an article on the Transmissibility of the Lepra Bacillus by the Bed-bug. They have shown that this animal on biting lepers may take the lepra bacillus into its alimentary canal. There for a time the bacilli increased in size and apparently in numbers, but they eventually disappear. Infected bugs were found sometimes to transmit the bacilli to the skin of an animal bitten by them, but no evidence is produced to show that in man the disease is communicated in this way. Only as a digression is the fish hypothesis discussed. The authors confirm from their experience the success of Duval and his associates in readily infecting fish with the bacillus lepræ.[5] The organism rapidly appears in the various organs of the body, though the fish apparently remained unharmed. The authors are inclined to agree with Couret and Duval that fish and other cold-blooded animals, such as turtles and snakes, may represent the true habitat of the lepra bacillus, and that warm-blooded animals, including man, are relatively or absolutely resistant and require special dosage to ensure infection or special predisposition to become infected. That the disease may be acquired from infected and uncooked or imperfectly cooked fish, they think, does not seem very improbable. The belief that rotten fish is particularly dangerous they consider to be singularly substantiated by the fact that the cultivation of the bacilli of leprosy in the laboratory is favoured by media containing the products of digestion and cleavage of proteids. While unwilling at this stage to advocate further the hypothesis of Sir Jonathan Hutchinson, they consider it to be worthy of more careful study than it has received.

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[1] THE LANCET, Dec. 6th, 1913, p. 1656.

[1] On Leprosy and Fish Eating. London: Constable and Co. 1906.

[2] Loc. cit., p. 48.

EPSOM COLLEGE.

IN another column we print a letter from Sir Henry Morris, honorary treasurer of Epsom College, in which he draws attention to the educational advantages offered by the College; to the charitable work accomplished by the Royal Medical Foundation attached to the College, which is now threatened with curtailment through lack of funds; and, thirdly, to the needs of the College chapel. Further information concerning these matters will be found in our advertising pages this week, where detailed announcements are made by the bursar and secretary of the College. We gladly give prominence to the appeals made by Sir Henry Morris, Mr. Douglas Crossley, and Mr. Bernard Lamb, and we are confident that when the circumstances are realised the medical profession, which has given generous help in the past, will do its utmost to place the institution, founded by John Propert half a century ago, in a position of permanent financial security.

THE report of the Departmental Committee on celluloid was issued this week. We have recorded in this journal from time to time the results of our own experimental inquiries upon celluloid, and have urged the desirability of regulating the sale and storage of this substance, in order that the public may be safeguarded against its dangers more effectively than is at present the case. The Committee's recommendations are of considerable importance, and we hope to deal with them in a future issue.

A LECTURE will be given at the Royal Society of Medicine, 1, Wimpole-street, London, W., on Wednesday next, Dec. 17th, at 5 o'clock, in connexion with the Section of the History of Medicine, by Professor Richard Caton. The subject is "The Health Temples of Ancient Greece, and the Work Carried on in Them," and the lecture will be open to all who are interested.

IT was stated by the chairman of the General Purposes Committee (Mr. Ernest Gray), at the meeting of the London County Council on Dec. 9th, that the committee could not recommend acceptance of the scheme prepared by the Metropolitan Asylums Board for the provision of an ambulance service for London. An alternative scheme may be presented at the next meeting of the Council.

WE much regret to announce the death of Mr. Sydney Jones, consulting surgeon to St. Thomas's Hospital, and one of the best practical surgeons in London of his day. Mr. Sydney Jones was in his eighty-third year. We shall publish an obituary notice next week.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—A course of 24 special lectures on Syphilology will be held at this hospital during February and March, commencing on Feb. 3rd.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berne:* Dr. R. von Fellenberg has been recognised as *privat-docent* of Gynæcology and Midwifery.—*Breslau:* Dr. Grüper has been recognised as *privat-docent* of Anatomy.—*Greifswald:* Dr. Paul Roemer, professor of hygiene in Marburg, has been offered the chair of that subject in succession to Dr. Loeffler, who is going to Berlin, and Dr. Egon Hoffmann, *privat-docent*, has been appointed to give the University lectures on Otology and Laryngology, in place of Dr. W. Lange, who is going to Gottingen.—*Kiel:* Dr. Boehm, *privat-docent* of medicine, has been appointed Oberarzt of the University Medical Clinic, and Dr. H. Koenig has been recognised as *privat-docent* of Psychiatry.—*Marburg:* Dr. Paul Rohmer has been recognised as *privat-docent* of Children's Diseases.—*Paris:* An Institute of Hydrology is to be attached to the Collège de France, which will contain a physical laboratory under the direction of Professor d'Arsonval, a laboratory of hygiene under Professor Bordas, [illegible] ysis under Professor Urbain, [illegible] chemistry under Professor Moureu.—*Prague (Bohemian University):* Dr. Wenzel has been promoted to the chair of Midwifery and Gynæcology in succession to Dr. Pawlik, who is retiring, and Dr. Wenzel Rubesco, *privat-docent* of midwifery and gynæcology, and Dr. Emmanuel Formanek, *privat-docent* of medical chemistry and [illegible] the title of Professor [illegible] *Vien*[illegible] been prom[illegible]

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[5] Couret. Journal of Experimental Medicine, May, 1911, xiii., 576.

MEDICINE AND THE LAW.

A Medical Man's Powers in Cases of Insanity.

AN inquest was held recently at Hammersmith upon the body of a young woman who had committed suicide by hanging herself in the kitchen at her home. The medical man who had attended the deceased, a panel patient, stated [illegible] sidered her to be suffering from [illegible] had advised her removal to an asylum. Her parents had, however, been very unwilling to take this course, and had declared that they would take care of her themselves. This raised the question before the jury of the powers and duties of a medical practitioner in the circumstances described, and the witness expressed the opinion that he could only advise certification and treatment in an asylum, and that as a medical man on the panel he could not refuse to continue to attend his patient. With reference to this case Dr. Major Greenwood called attention in the *Times* to the powers given to the relieving officer under Section 13 of the Lunacy Act, 1890, to take steps on receiving notice as to a person of unsound mind residing in his district and not under proper control, the authority thus conferred not being confined to the case of paupers. There can be no doubt that cases of the kind described place a medical practitioner in a very difficult situation, the difficulty varying [illegible] condition of the individual patient. [illegible] here appears to have acted quite correctly; there was no obligation upon him to embroil himself with the patient's parents, or indeed with her, by taking active steps to secure her certification. The responsibility for refusing the proper protection to the patient and the public lay with the parents.

The Jurisdiction of Courts of Law and the National Insurance Acts.

In the Manchester county court recently a factory operative named Clancy sought to recover £1 17*s.* sick benefit denied to her by her society on the ground that she had been found fit for work. The county court judge was informed that the plaintiff had been examined by a medical referee and had appealed against his decision that she was not incapacitated to the Insurance Commissioners, who had decided against her, and it was submitted that the county court had no jurisdiction. This view the county court judge accepted, and he declined to hear the case. We refer to it on account of the [illegible] awn between it and the case [illegible] of rubber stamps for signatures, which was tried by his honour Judge Rentoul[1] at the City of London Court recently. In that case, apparently, it was held that the point to be decided lay outside those which the Insurance Act, 1911, ordered to be decided by arbitration or according to the rules of the Approved Society concerned. Clancy's case was one for the decision of which machinery was provided by the Act. It is clear that the powers enjoyed by courts of law to intervene in [illegible] the administration of the Natio[illegible] are by no means clearly defined, and the question whether there is [illegible] seems likely to come up for [illegible]

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[1] See THE LANCET, Dec. 6th, 1913, p. 1668.

NOVEMBER AT HOME AND ABROAD.

THE general character of the weather during November was very mild over the entire area of the British Isles and much of the [illegible] the mildness being chiefly due to the [illegible] from some point between south and west These winds, blowing an occasional gale on some parts of the coast and sometimes at exposed places inland, never allowed the thermometer to fall to the normal November figure during the daytime, and the only frost that was experienced at night occurred during a quiet interval after a cyclonic disturbance had passed off and before the arrival of its successor. These mild winds from the Atlantic brought much cloud, from which descended a good deal of rain, but there were frequent clearances which allowed a liberal share of sunshine for the time of year. If the Kew observatory is taken to represent the London district it is found that the mean maximum temperature was nearly 5° in excess of the normal, the figure being 53 5°, and that the mean minimum was 40·3°, or nearly 2° above the normal. At Bath the temperature was rather higher, and the divergence from the average also rather more marked and at Nottingham, where the mean maximum was 52° and the mean minimum 38°, the excess of warmth was similar to that in London. At Brighton and Bournemouth the respective maxima were 54° and 55°, and the minima 45° and 43°, all the values being 4° above the normal, while in the extreme south-west of England the same characteristic was general. At Newquay, where the moist winds from the [illegible] mist and fog, the mean maximum was [illegible] which rarely suffered from fog, had a mean maximum of 56°. At night, however, Newquay was the warmer, having a mean minimum of 47°, or 2° higher than Torquay. At Jersey the mean minimum was the same as at Newquay, and the mean maximum as high as 57°. Over the country as a whole the rainfall exceeded the average, but there were some exceptions, and the quantity varied considerably. At Newquay only four days were entirely rainless, and the total fall, 4·5 in., was 0 7 in above the average. At Brighton the fall was larger, 4·6 in., and the difference from the average nearly 1·5 in. There were, however, as many as 11 days without rain. Bournemouth was relatively dry, having 17 days without rain, and a total fall no greater than 2·9 in. At Kew rain fell on 18 days, and gave a total of 2·2 in., a figure just equal to the average, and in the Midlands, at Nottingham, the total was only 1 6 in., or 0·3 in. below the normal, and the number of rain days 19. The Channel Isles came within the most rainy region. At Jersey, where 23 days were more or less wet, the aggregate fall was 4 8 in., an excess of 0 6 in. on the average. The distribution of sunshine showed some striking peculiarities. In spite of the numerous days with rain, very few were entirely sunless, considering the period of the year. At Kew the sun shone on 22 days, and yielded a total of 70 hours, against a November average of 51 hours. At Bath the total was 73 hours, or 14 more than the average, and at Nottingham there were 53 hours, an excess of 13 Along the south and south-west coasts some places had an excess and others a slight deficit. At Brighton the excess was only 1 hour, the total being 74 hours, only 4 hours more than at Kew, while at Newquay the total was 67 hours, or 7 hours less than the average Torquay, on the contrary, had an excess of 12 hours, and a total of 94 hours, and Bournemouth recorded as many as 89 hours. At Jersey the figure was below that at Kew, which is a most rare occurrence at any season of the year. The aggregate was only 67 hours against an average of 77 hours. According to the average of the past 25 years Jersey records nearly an hour more daily than Kew. As in this country, the weather on the continent was mostly mild and rather rainy. At Paris the mean maximum temperature was 54° and the mean minimum 44°—a very small range for Paris—and the rain, which fell on 19 days, gave a total of 2·5 in. The chief feature about the Paris weather, however, was the great lack of sunshine On no less than 15 days the sun failed to shine at all, and the other 15 days only yielded a total of 30 hours, or less than half of the number recorded at Kew. Berlin was colder, with a mean maximum temperature of 50° and a mean minimum of 40°, while Brussels came midway with a mean maximum of 52° and a

At Biarritz only nine days were rainless, and the large total of 7·7 in. was registered. The temperature at that resort was the same as at Jersey during the daytime, the mean maximum being 57°, while the nights were colder, the mean minimum being as low as 42°. The Riviera experienced a few heavy downpours of rain, but the general state of the weather was fine and
fairly high. At Nice rain fell o
total of 3·4 in., while the mear
the afternoon was as high as
were no warmer than those at Newquay, the mean minimum temperature being 47°. In Italy occasional rain was experienced over the northern half of the country, but hardly any in the south, and the weather generally was drier than usual in November. Early in the month the shade temperature rose to 70° frequently, and towards the end it was often nearly as
But in the north, especially in.
ually little or no higher than i.
England
The coast of Algeria decreased greatly in warmth as the month advanced. Early in the period the temperature of the afternoons was generally between 70° and 80°, but towards the end the figure of 70° was seldom reached. As a rule the weather was bright and dry, and when there was rain it was rarely heavy.

ROYAL COMMISSION ON VENEREAL DISEASES.

At the sixth meeting of the Royal Commission which was held on Dec. 1st evidence was given by Dr. Burnett Ham, who from 1909 until this year was head of the Health Department in the State of Victoria, describing the measures which have recently been taken in connexion with venereal diseases in that State.

In 1908, at the meeting of the Australian Medical Congress, the following resolution was passed :—

this matter, and as a consequence Dr. Ham was directed to draw up a scheme for the investigation of the subject, and an advisory committee, consisting of the leading medical men and women in Melbourne, was appointed to act with him.

As a first step to ascertain the facts as precisely as possible it was decided to make syphilis a compulsorily notifiable disease in the Melbourne metropolitan area. In actual practice the compulsory nature of the notification was not insisted upon, as no penalties for failure to notify were enforced, but it was felt that unless an official flavour was
notify, the respons
e small. There
the medical profe

when it was made clear th
impersonal, that no names w
sequently no administrative
notification so far as the pati

Thus the measure adopted
as ordinarily understood, but rather an experiment made with a view to ascertaining the amount of syphilis in the city. In connexion with the notification arrangem
circular was issued to medical practitioners explaini
kind of cases they were expected to notify, an
were also asked to supply with each notification a sar
the patient's blood for the purpose of testing
Wassermann reaction.

In the course of a year 5500 notifications were mac
an equal number of samples of blood
these notifications were
by the Melbourne Hos
Hospital. Of the 5500

had been anticipated.

An investigation was also carried on at the eye and ear cliniques of Dr. J. W. Barrett.
selves during a certain period
from which they were suffering
mann reaction. The results showed that out of 550 cases 75, or 13·6 per cent., gave positive or partial reactions. With regard to gonorrhœa, a statement was furnished to the advisory committee by the Women's Hospital, from which it appeared that in the view of the staff at least 50 per cent of the major operations performed at the hospital were due to gonorrhœa

The advisory committee, after submitting their report to the Government, endeavoured to induce the press to take up the question, and in this they met with a certain amount of success. The National Council of Women were also approached, and they agreed to assist in an educational campaign and to coöperate with any reasonable measures the Government might bring in, provided that there was no legislation on the lines of the Contagious Diseases Acts, and that no difference was made as between men and women. The advisory committee did not recommend legislation, but they advised the Government to subsidise the provision of wards for the reception of venereal cases in the general hospitals. This recommendation was adopted by the Government and free beds were provided, 24 for males at the Alfred Hospital and 20 for females at the Women's Hospital. The wards were equipped by the Government with the most modern appliances, and in addition a subsidy was made to the Melbourne University to provide for the carrying out of Wassermann tests. At first there was some difficulty in filling the beds provided, but as it became known that the

clinic at the Alfred Hospital also helped to popularise the arrangements

Dr. Ham thought that the experiments conducted at Melbourne had led to a greater interest in the subject, and that in securing early treatment and early diagnosis they had achieved an important result.

A Health Bill was at the present time before the Victorian Legislature which contained provisions for
treatment of patients, for the
by unqualified persons, and for making the transmission knowingly of venereal diseases a penal offence.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns with populations
rsons at the last Census, and whose
at the middle of this year is estimated
7756 births and 4504 deaths were regis-
eek ended Saturday, Dec. 6th. The
e towns, which had been 13·8,
en preceding weeks, declined
der notice. During the first

in Burnley.

The 4504 deaths from all causes were 335 fewer than the
week, and included 269 which were
epidemic diseases, against numbers
925 to 348 in the eight preceding
leaths, 101 resulted from infantile
rom diphtheria, 60 from measles,

7 in Liverpool, 6 in Manchester, 4 in Stoke-on-Trent, and 3 each in Salford, Middlesbrough, and Rhondda. The deaths referred to diphtheria, which had been 63, 76, and 65 in the three preceding weeks, further fell to 45 last week, and included 10 in London, 4 in Portsmouth, 3 each in Southampton, Stoke-on-Trent, and Hull, and 2 each in Gloucester, Birmingham, and Liverpool. The fatal cases of measles, which had been 43, 50, and 39 in the three preceding weeks, were 40 last week; 5 deaths occurred in Sheffield, 5 in Middlesbrough, 4 in Norwich, and 3 each in Stoke-on-Trent, Salford, and Burnley. The [illegible] attributed to scarlet fever, which had been 36, [illegible] 35 in the three preceding weeks, further rose to [illegible] week, which was the highest number of deaths from this disease recorded in any week of this year; 5 deaths were registered in Birmingham, [illegible]. 3 each in Preston, South Shields, and [illegible] 2 in Liverpool, and 2 in Salford. Th[illegible] whooping-cough, which had been 35, 33, and 39 in the three preceding weeks, fell to 32 last week, and included 6 in London, 3 each in Stoke-on-Trent, Birmingham, and Coventry, 2 in Manchester, and 2 in Leeds. The fatal cases of enteric fever, which had been 16, 21, and 18 in the three preceding weeks, declined to 14 last week, of which 2 occurred in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever [illegible] which had steadily risen from 2112 to 4112 in th[illegible] ceding weeks, had further increased to 4143 on Saturday last; 524 new cases were admitted during the week, against 597, 558, and 618 in the three preceding weeks. These hospitals also contained on Saturday last 1193 cases of diphtheria, 167 of whooping-cough, 72 cases of enteric fever, and 52 of measles, but not one of small-pox. The 1102 deaths from all causes in London were 121 fewer than the number in the previous week, and corresponded to an annual death-rate of 12·7 per 1000. The deaths referred to diseases of the respiratory system, which had risen from 205 to 261 in the four preceding weeks, declined to 227 last week, and were 97 below the number recorded in the corresponding week of last year.

Of the 4504 deaths from all causes in the 96 towns, 166 were attributed to different forms of violence, and 416 were the subject of coroners' inquests. The causes of 35, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, West Ham, Bradford, Hull, Newcastle-on-Tyne, and in 70 other smaller towns. Of the 35 uncertified causes of death, 10 were recorded in Birmingham, 5 in Liverpool, 3 in Stoke-on-Trent, 2 in London, and 2 in Darlington.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an [illegible] estimated at 2,259,600 persons at the [illegible] 1050 births and 677 deaths were registered during the week ended Saturday, Dec. 6th. The annual rate of mortality in these towns, which had been 16·2, 15·8, and 17·0 per 1000 in the three preceding weeks, declined to 15·6 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these towns averaged 15·0, against 13·6 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rate last week ranged from 6·8 in Hamilton, 7·3 in Falkirk, and 10·7 in Ayr, to 19·2 in Coatbridge, 19·5 in Kilmarnock, and 22·0 in Clydebank.

The 677 deaths from all causes were 60 fewer than the number in the previous week, and included 83 which were referred to the principal epidemic diseases, against 68 and 75 in the two preceding weeks. Of these 83 deaths, 40 resulted from measles, 14 from infantile diarrhœal diseases, 12 from diphtheria, 8 from scarlet fever, 5 from whooping-cough, and 4 from enteric fever, but not one from small-pox. These 83 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9, against 0·8 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 36, 33, and 35 in the three preceding weeks, further rose to 40 last week, and included 24 in Glasgow, 5 in Greenock, 3 in Clydebank, and 2 each in Paisley, Leith, and Motherwell. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 21, 14, and 8 in the t[illegible] rose to 14 last week, of which 4 were [illegible] 3 in Dundee, and 3 in Aberdeen. T[illegible] theria, which had been 10, 10, and [illegible] ceding weeks, fell to 12 last week, and included 4 in Glasgow and 3 in Aberdeen. The deaths attributed to scarlet fever, which had been 9, 6, and 11 in the three preceding weeks, declined to 8 last week, of which 4 occurred in Edinburgh. The deaths ref[illegible] which had been 3, 5, and 7 in the [illegible] [illegible]ell to 5 last week, and comprise [illegible] [illegible]1 in Hamilton. The 4 fatal cas[illegible] [illegible]lightly in excess of the average in the earlier weeks of the quarter, but showed no marked excess in any particular town.

The deaths referred to diseases of the respiratory system, which had increased from 84 to 129 in the four preceding weeks, declined to 123 in the week under notice; 23 deaths resulted from various forms of violence, against 30 and 26 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of this [illegible] births and 367 deaths were registered during [illegible] ended Saturday, Dec. 6th. The annual rate of [illegible] in these towns, which had been 18·8, 16·4, and 16·5 per 1000 in the three preceding weeks, fell to 16·0 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these Irish towns averaged 17·2 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·6, while in the 16 Scotch towns it was equal to 15·0 per 1000. The annual death-rate last week was equal to 18·1 in Dublin (against 12·7 in London, and 16·6 in Glasgow), 15·4 in Belfast, 16·3 in Cork, 17·8 in Londonderry, 14·9 in Limerick, and 11·4 in Waterford, while in the 21 remaining smaller towns the mean death-rate did not exceed 13·3 per 1000.

The 367 deaths from all causes were 15 fewer than the [illegible] the previous week, and included 36 which were [illegible] the principal epidemic di[illegible] declining from 41 to 30 in the thre[illegible] these 36 deaths, 13 resulted from [illegible] infantile diarrhœal diseases, 4 from whooping-cough, 3 from enteric fever, 2 from diphtheria, and 1 from measles, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·6 per 1000; in the 96 large English towns the corresponding rate did not exceed 0·8, while in the 16 Scotch towns it reached 1·9 per 1000. The deaths attributed to scarlet fever, which had been 9, 6, and 11 in the three preceding weeks, further rose to 13 last week, and included 8 in Belfast and 3 in Dublin. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 15, 18, and 12 in the three preceding weeks, were 13 last week; of this number 5 were recorded in Dublin, 2 in Cork, 2 in Londonderry, and 2 in Tralee. The 4 fatal cases of whooping-cough, comprising 3 in Belfast and 1 in Dublin, were equal to the average in the earlier weeks of the quarter. Of the 3 deaths attributed to enteric fever, 2 occurred in Dublin and 1 in Belfast; the 2 deaths from diphtheria were recorded in Dublin and Kilkenny respectively, and the fatal case of measles in Dublin.

The deaths referred to diseases of the respiratory system, which had been 73, 68, and 76 in the three preceding weeks, fell to 73 in the week under notice. Of the 367 deaths from all causes, 112, or 31 per cent., occurred in public [illegible] and 7 resulted from various forms of violence. [illegible] of 14, or 3·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes did not exceed 0 8 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeon: W. H. Pope to the *Essex*, on commissioning. Staff-Surgeons: E. R. L. Thomas to be lent to the *Cressy*, temporarily; H. Cooper to the *Diana*, and for duty with group of 3rd Fleet Ships, additional; and A. O. Hooper to the *Pembroke*, additional, for disposal, and to the *Natal*. Surgeons: L. H. Richardson to the *Sirius*, on commissioning, and to the *Odin*, on recommissioning; and E. St. G. S. Goodwin to the *Hampshire*, on recommissioning.

The undermentioned Staff-Surgeons have been promoted to the rank of Fleet-Surgeon in His Majesty's Fleet.—Malcolm Cameron, James Duff Scott Milln, Kenneth Hurlstone Jones, Samuel Henry Facey, Godfrey Taylor, Alfred Woollcombe, Francis Bolster, George Ernest Macleod, William Henry Pope, and James Herbert Fergusson.

ARMY MEDICAL SERVICE.

Colonel Harry S. McGill is placed temporarily on the half-pay list on account of ill-health (dated Dec. 4th, 1913). Colonel Walter G. A. Bedford, C.M.G., from the half-pay list, is rest[illegible] vice H. S. McGill, to the half-pay [illegible]

ROYAL ARMY MEDICAL CORPS.

Major James E. Carter is placed on retired pay (dated Dec. 2nd, 1913).

Colonel H. N. Thompson, D.S.O., senior medical officer at Lucknow Cantonment, has been selected for appointment as Deputy Director of Medical Services to the Scottish Command, vice Colonel T. P. Woodhouse. Colonel H. J. Barrett has taken up duty as Assistant Director of Medical Services to the Bareilly, Garhwal, and Dera Dun Brigades of the Meerut Division.

Lieutenant-Colonel J. M. F. Shine has left Ireland for a tour of service in India. Lieutenant-Colonel O. R. A. Julian, C.M.G., [illegible] arge of the Royal Hospital at Che [illegible] C. W. H. Whitestone has been [illegible] Officer on board the transport s.s. [illegible] Southampton. [illegible] appointed for M [illegible] Lieutenant-Colo [illegible] Military Hospit [illegible] Sutton, D.S.O., has taken up duty as Commandant at the Royal Army Medical Corps School of Instruction at Aldershot.

Major M. H. Babington has joined at Malta. Major W. A. Ward has taken up duty at the Military Hospital, Bulford Camp, Salisbury Plain. Major E. E. Powell has left Aldershot for a tour of service in India. Major W. P. Gwynn has arrived home for duty from Shwebo. Major H. M. Morton has been transferred from the Military Hospital at Glasgow to Perth. Major T. C. [illegible] en transferred from the Military [illegible] Major F. E. Gunter and Maj [illegible] n detailed for duty on board the transport s.s. *[illegible]*, which left Karachi [illegible] vall has [illegible] Karachi [illegible] ppointed [illegible] Canton- [illegible] Major A. W. A. Irwin has been transferred from Cork to Clonmel. Major A. W. Sampey, specialist in the prevention of disease to the Fyzabad Brigade, has taken up duty at the Military Hospital, Wellington. Major C. H. Carr has been transferred from the Military Hospital at Tidworth to Upavon.

Captain J. C. G. Carmichae [illegible] pur Cantonment, Murree Hil [illegible] to the Military Hospital at [illegible] sferred from Armagh to the [illegible] Captain H. Harding has taken [illegible] on transfer from the Military [illegible] ptain W. J. Tobin has been granted six months' leave of absence home from India. Captain W. F. H. Vaughan will on arrival in India be appointed to the Lahore Division for duty. Captain W. Mitchell has been appointed in medical charge of troops on board the transport s.s. *Dongola* leaving Karachi for Southampton on Dec. 19th. Captain R. E. Humfrey has been transferred from Kilworth to the Military Hospital at Queenstown. Captain A. S. Heale has taken up duty at Liverpool. Captain J. A. Anders [illegible] the Royal Army Medical College, [illegible] transferred from the Military Hospital at Cork to Limerick. [illegible] appointment as [illegible] thology at King [illegible] r Hill, Dublin. [illegible] a tour of service [illegible] n arrival will be [illegible] aptain N. E. J. [illegible] Captain W. G. [illegible] the Royal Army [illegible] West Lancashire [illegible] een placed under [illegible] lerabad Division [illegible] llowing Captains [illegible] College for the [illegible] (Chatham), and R. S. Smyth (Cosham). Captain D. H. C. MacArthur has been transferred from Dalhousie Cantonment to the Military Hospital at Lahore.

INDIAN MEDICAL SERVIC[illegible]

The King ha [illegible] Colonel W. H. [illegible] of Captain R. I [illegible] to the temporary half-pay list.

Lieutenant-Colonel C. Donovan has been selected for the advanced rate of pay under Article 7 of the Royal Warrant for Pay and Promotion in succession to Lieutenant-Colonel R. Robertson, advanced to the rank of Colonel. Lieutenant-Colonel S. H. Burnett [illegible] Presidency Surgeon of [illegible] medical charge of the [illegible] Lieutenant-Colonel T. [illegible] sioner in the Presidenc[illegible] disposal of the Commander-in-Chief in India. Lieutenant- [illegible] Howlett.

Major A. F. W. King has been appointed to officiate as [illegible] at Guidy.

The services of Captain J. V. Macdonald have been replaced at the disposal of the Commander-in-Chief in India. Captain J. M. A. MacMillan has been appointed Civil [illegible] appointed to officiate as Professor of Surgery at the Government Medical College, Lahore, during the absence on leave of Lieutenant-Colonel E. V. Hugo. Captain M. J. Quirke [illegible] disposal of the Govern- [illegible] or employment in the [illegible] I. R. Dutton has been [illegible] home from India com- [illegible] Captain N. S. Sodhi has [illegible] Officer at Ludhiana. Captain S. H. Lee Abbott has been selected for appointment as Civil Surgeon at Ferozepore. Captain H. M. H. Melhuish has been granted six months' general leave of absence home from India. Captain J. F. Boyd has been placed at the disposal of the Government of the United Provinces of Agra and Oudh as Superintendent of the Central Jail at Bareilly. Captain H. C. Keates has been selected for appointment as Civil Surgeon at Campbellpore. Captain J. L. Lunham has been granted nine months' extension of leave of absence home from India.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant John R. R. Trist to be Captain (dated Nov. 30th, 1913).

The undermentioned Lieutenants are confirmed in their rank:—Gerald F. P. Gibbons and Robert Montgomery.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Surgeon-General Sir Alfred Keogh, K.C.B., retired pay, is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the 2nd London Territorial Division, vice [illegible] 1913).

1st East Lancashire Field Ambulance, Royal Army Medical Corps: Lieutenant Joseph M. Postlethwaite to be [illegible] with the honorary rank of [illegible] Charles P. Woodstock to be [illegible] Lieutenant William Gilchrist [illegible] Dec. 3rd, 1913).

For Attachment to Units other than Medical Units.—William Rex Collingridge to be Lieutenant (dated Dec. 3rd, 1913).

COLONIAL MEDICAL SERVICES.

West African Medical Staff.—Mr. K. McGahey, Medical Officer, Northern Nigeria, has been appointed Senior Sanitary

Officer in Ceylon., Dr. P. H. MacDonald, Dr. R. C. Hiscock, and Dr. M. W. Manuk have retired on pension. Dr. J. D. Finlay has retired with a gratuity. The following have been selected for appointment to the staff: Dr. W. E. Glover (Southern Nigeria), Dr. H. H. Stewart (Southern Nigeria), Mr. W. E. S. Digby (Northern Nigeria), Dr. J. W. B. Hanington (Northern Nigeria), Dr. C. R. Patton (Gold Coast), Mr. H. McO. Hanschell (Gold Coast), and Mr. R. H. Miller (Gambia).

Other Colonies and Protectorates.—Dr. R. F. Russell has been selected for appointment as a Supernumerary Medical Officer, Jamaica. Dr. W. Tudhope, Dr. H. H. V. Welch, and Mr. F. Collar have been selected for appointment as Temporary Medical Officers, East African Protectorate. Dr. H. W. Catto has been selected for appointment as an Assistant Bacteriologist and Pathologist in the Medical Department of Jamaica.

DEATHS IN THE SERVICES.

Deputy Inspector-General Theodore Julian Preston, R.N., at his residence, St. John's Park, Blackheath, aged 66, on Dec. 2nd. He entered the service in 1873, was promoted to the rank of staff-surgeon in 1885, and to fleet-surgeon in 1894. He was present at the bombardment of Alexandria in 1882, and afterwards landed in medical charge of the Royal Marines and was employed on shore as senior medical officer of the Royal Marine Battalion. With Sir Evelyn Wood's Brigade for the defence of Alexandria he was present at the capitulation and surrender of the Aboukir and Rosetta Forts (Egyptian medal, Alexandria clasp, and the Khedive's bronze star). In 1888 he was awarded the Sir Gilbert Blane gold medal. He retired in 1902.

THE GRAND PRIORY OF THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.

The King has sanctioned the following promotions in and appointments to the Order of the Hospital of St. John of Jerusalem of England:—To be Knights of Grace: Lieutenant-Colonel Sir James Reid Roberts, I.M.S., the Honourable Colonel Robert Neil Campbell, C.B., C.I.E., I.M.S., Dr. Cluny Macpherson, Colonel William Henry Bull, K.H.S., A.M.S. (T.F.) (from Honorary Associate), and Mr. Harry Littlewood (from Honorary Associate).

INDIAN MEDICAL SERVICE EXAMINATION.

An examination for not less than 12 commissions in His Majesty's Indian Medical Service will be held in London on Monday, Jan. 26th, 1914, and the five following days. Application for forms should be made to the Military Secretary, India Office, London, S.W.

Obituary.

PERCY KINGSLEY STEELE, M.B., B.CH. VICT., F.R.C.S. ENG.,

HONORARY SURGEON TO THE ROYAL HALIFAX INFIRMARY; LIEUTENANT, R.A.M.C. (T.).

THE profession in the West Riding of Yorkshire has sustained a severe loss by the death of Dr. Percy Kingsley Steele, of Halifax, after three weeks' illness, at the early age of 32. He was the second son of Mr. Samuel H. Steele, of Halifax, and after a successful career at the University of Leeds, during which he gained many distinctions and prizes, he obtained in 1903 the degrees of M.B., B.Ch. Vict. with honours. He then became house surgeon, house physician, and later resident medical officer to the Leeds General Infirmary, after which he worked in London, and in 1906 obtained the Fellowship of the Royal College of Surgeons of England. Many of his friends had expected him to return to Leeds, but he joined his father at Halifax, and on the retirement of the latter he succeeded to the whole practice. Soon after he settled down a vacancy occurred on the staff of the Royal Halifax Infirmary, and he was elected to the vacant post in 1907. His previous career in Leeds stood him in good stead, and being able, hard-working, and deeply devoted to his profession, he soon had a brilliant career before him. This was made the more certain because of the varied direction of his energies. He became secretary to the Halifax and Local District Medical Society, which prospered under his care for some years. He was a lieutenant in the R.A.M.C.(T.). On the acceptance of the working of the Insurance Act by the profession in December, 1912, he was unanimously appointed to the post of secretary to the [illegible] ttee, at the meeting of the [illegible] British Medical Association, and although he did not approve of the method of the introduction of the Act he accepted the responsibility and did his best on behalf of his medical brethren. That he gained the respect and esteem of the Insurance Committee is shown by the fact that at a meeting of this body on Dec. 5th a resolution was passed recording their appreciation of "the invaluable services most cheerfully rendered by the late Dr. Percy K. Steele, whose sudden and untimely death has created a most acute loss."

The view of the Local Insurance Committee is that of the community at large. Dr. Percy Steele's untimely death is a real loss to the medical profession and town of Halifax, and we associate ourselves with the sympathies which have been so widely extended to his father, Mr. Samuel Steele.

RICHARD MACARTNEY, L.R.C.P. & S. EDIN.,

CORONER FOR THE FOREST OF DEAN DIVISION OF GLOUCESTERSHIRE.

Mr. Richard Macartney died at his residence, "Lissanoure," Cinderford, on Dec. 6th, after a few days' illness, from pneumonia.

Richard Macartney was born on Dec. 14th, 1861. He was son of Mr. William Macartney, Chief of the Police Force for the island of Ceylon. After studying at [illegible] Belfast, and the Carmichael [illegible] ook the L.R.C.P., L.R.C.S., and [illegible] of Edinburgh in 1883, and shortly afterwards commenced practice in Cinderford. He held several public appointments, being medical officer and public vaccinator for the No. 4 district of the Westbury-on-Severn Union. He was also surgeon to several collieries. Mr. Macartney took a great interest in ambulance work, and was a lecturer and examiner of the St. John Ambulance Association; he was also a prominent Freemason. He was a good sportsman, and was closely associated with county and local football. In 1907 he was appointed coroner for the Forest of Dean division of Gloucestershire, and was then presented with a motor-car as a mark of respect and esteem. Mr. Macartney was extremely popular in Cinderford and the district.

HUBERT LISTON WILLCOX, L.R.C.P. LOND., M.R.C.S. ENG.,

HONORARY SURGEON TO THE WARMINSTER HOSPITAL.

THE death of Mr. Hubert L. Willcox, of Warminster, which occurred on Dec. 3rd, was attended with singularly sad circumstances. On Nov. 5th he scratched his finger slightly whilst performing an operation, and subsequently blood poisoning supervened which terminated fatally. Mr. Willcox received his medical education at King's College Hospital, London, and took the L.R.C.P. and M.R.C.S. qualifications in 1901. After holding the appointment of house surgeon at King's College Hospital he joined his father, Mr. R. Lewis Willcox, in practice at Warminster. The deceased, who was only 36 years of age at the time of his death, was extremely popular in Warminster and the district, and much sympathy is felt there for the members of his family.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(FROM OUR SPECIAL COMMISSIONER.)

(Continued from p. 1654.)

XXX.—SOUTH WALES AND MONMOUTHSHIRE.

THE position in South Wales and Monmouthshire differs considerably from that prevailing in other industrial districts, and even from that observed in coal areas in other localities. For a long time the system known as "poundage" prevailed here, and this, which is presently to be explained, rendered the need of an Insurance Act much less urgent than in other parts of the country. One of the greatest advantages conferred on the [illegible] the Act has been the [illegible] many poor persons who [illegible] his remark applying of [illegible] women were especially unprotected in this direction. But in Wales insurance existed very largely before the new legislation, and some persons think that its form was as satisfactory as to day under the Act. The colliers, the metal workers, and many other classes of working men took advantage of the poundage system, by which their employers deducted so many pence from each pound of wages earned, to be devoted to purposes generally beneficial to the men. In this manner the colliers of Ferndale purchased freehold land and built a fine hall, with theatre, assembly rooms, a library, a swimming bath, and a billiard saloon. The institution cost £17,800, and the cost was covered by a "poundage" of 1½*d.* Eleven such halls have been built in the two Rhondda valleys, the cheapest costing £2000. For medical aid purposes the colliers consented to a poundage of 3*d*, for themselves and their families.

Wages, of course, differ greatly, and where coal is easily got £2 a week may be the average. But to be on the safe side the local practitioners have set down the average at a little more than 30*s.* a week, and thus reckon the "poundage" of 3*d.* as equal to 21*s.* a year. Though this su[illegible] on the families, it was pa[illegible] and by men who had no [illegible] day the insured co[illegible] married or single, sl[illegible] and above the 7*s.* [illegible] Act, otherwise the [illegible] receive as much as [illegible] of these figures would be [illegible] should be continued as [illegible] de[illegible] collected, the levy should be [illegible] in the £. This was actually agreed upon at some of the works and collieries where matters were settled very soon after the first Act was passed. But after a while the childless workers began to object to paying about 14*s.* a year for other men's wives and families. The doctors, on their side, urged that even with these contributions they would not be better paid, as they would [illegible] work, even if the clinical [illegible] in some important directions, [illegible]

The Working of the Pounda[illegible]

[illegible] the [illegible] g held by those who [illegible] filled up by electing a practitioner living in the district who was popular enough to secure a majority vote, the retiring doctor's assistant being very generally chosen. The works doctor thus appointed shared in the fortunes of the men. During a strike he was not paid at all. If the strike resulted in an increase of wages then the doctor's income rose in due proportion, and if the wages fell the doctor also received less. Thus the payment for medical service was always in proportion to the wages actually earned. The practitioners received a life appointment subject to a mass meeting of the men. The deduction of the 3*d.* in the £ at the office where the wages are paid was permissible under the Truck Act. The collier had to sign a book setting forth, as a condition of his employment, certain deductions to be made from his wages for coal, rent, medical attendance, and other things. The works doctor had to provide medical attendance, drugs, and appliances. This included splints, trusses, dressings, bandages, and cod-liver oil. He was called upon to do major operations, amputations, relief of strangulated hernia, and also all emergency surgery. He had to provide suitable surgeries. His gross income might amount to £1000, in some case perhaps even to £2000, but it is difficult to get precise figures, and there were many [illegible] It will be seen also that [illegible] n the works doctor had more to do than the panel doctor. Therefore to-day it is put forward that if the insured person, over and above his insurance contribution, pays a poundage for his dependents he could claim from his medical attendant under the poundage system services which he would not receive from him as a panel doctor. This is the one advantage the childless worker would have if he continued paying poundage as well as his contribution under the Act. In South Wales and Monmouthshire the family is estimated at between four to five persons, or about 4*s.* a year for each person. Now 7*s.* are paid for one member of the family, and the trouble is to settle definitely what the other members of the family are to pay.

The Working-class Masters.

Instead, however, of endeavouring to settle this difficulty by mutual agreement a considerable number of energetic and ambitious working men have seen in these circumstances an opportunity [illegible] iding institutions in which they could obtain [illegible] and play a leading part. The motives, with [illegible] s an exception here and there, are not [illegible] But the man who has so far raised himself from the ranks of the working-class as to become a leader desires to possess power as naturally as other classes of the community. Thus the question of institutes came forward prominently. Under the Insurance Act the workman pays, but he does not patronise. Therefore there is a strong temptation to escape from the Act and to re-establish committees of management that shall exercise authority and be able to give or withhold employment.

Before the Act came into force there were medical aid institutions which the profession did [illegible] s they were given a legal standing [illegible] Clause 4, of the Act it was thought [illegible] t to protest against their continuance. Among the most important of the in[illegible] ed medical attendance before [illegible] Tredegar, Rhymney, Blaenavon, and [illegible] ale. Here the doctors are appointed by the miners on the whole-time system and paid a regular salary. The profession has objected that the money deducted from the miners' wages for medical treatment is *not all paid over to the doctor*, and that their medical officer is under the complete control of a committee of workmen. It is a fact that the medical officer is absolutely dependent for his livelihood on these committees. There is no question of the patient's preferences: it is the committee alone which decides. Then though whole-time service was imposed, the idea that their medical servant might, at some time in life, be entitled to a pension never occurred to these institutions. The medical servants of such organisations have but one way of getting an amended position, and that is an effective strike.

Medical Service under an Institution.

When the Act came into force some leading spirits among the men began to search for means to increase the number of the institutions like those that had been in operation before, as a way to secure cheap medical attendance for the dependents of insured persons. They endeavoured to persuade themselves that medical men would serve working men better if working men representatives had a position from which to threaten. Further, there was the question of the certificates for sick benefits and for obtaining payments under the Workmen's Compensation and Employers' Liability Acts. Here it may well be asked if a medical man, under such conditions of employment, is as free as he should be in the giving of certificates. Would he not be more free as a panel doctor? If he refused a certificate when on the panel he might lose a patient; if he displeased the managing committee of an institute he might lose his means of existence.

The institutes boast on their side that they have hospitals. To this it may be retorted that the object of these hospitals is not medical science but cheapness; and that these hospitals are not properly controlled and have no competent authority over them. A committee of workmen ask an architect for a plan of a hospital, though they are not aware if the architect has special knowledge of the subject. The architect supplies a plan on information from the committee, and it is inevitable that the plan will follow more the limitations laid down by the committee than any idea of what will best suit the forthcoming patients. The committee would probably take the advice of their whole-time medical officer, but he might frequently have no experience beyond that acquired as a house surgeon or house physician. Good practical buildings have followed such plans, but there is no certainty.

The Creation of New Institutions after the Act.

It will be seen, therefore, that the institutions that exist to-day in virtue of Section 15, Clause 4, do not bear such a character as to render the increase of their number at all desirable. Nevertheless, the Welsh Insurance Commissioners have permitted a great increasing of their number in defiance of the implied purpose of the law, which in the section alluded to says that institutions that existed "at the time of the passing of the Act" may continue to exist, implying thus that such institutions are not to be created after the passing of the Act. Over and over again it was stated that the panel system was to be the proper and normal arrangement. But now Clause 3 of Section 15 has been so twisted as to defeat the purport of Clause 4. This is the contracting-out clause. It was felt that, for instance, it was hard to compel patients to abandon their family doctor because the latter refused to go on the panel. All the speeches in Hansard show that the object was to allow patients to make their own and special arrangements with medical men who were not on the panel. But the Insurance Committees have been much opposed to such a practice, and only on rare occasions have they consented to allow this contracting out. Now the extraordinary thing is that what has been so strenuously and harshly refused to the individual, though positively sanctioned by the law, has been recklessly granted to societies or associations.

The Statutory Rules and Orders, 1912, No. 1719, say on page 7, paragraph 7, that the Insurance Committees may allow any insured persons resident in the county or borough, whether individually or collectively, in lieu of receiving medical benefit under the arrangements made by the Insurance Committee, to make their own arrangements for receiving treatment, including medicines and appliances. This surely is stretching the Act of Parliament. In the Act it says and "to allow any other persons." Is the fact that there is an "s" after the word person sufficient to sanction collective action? Can a collectivity be allowed to do what is but rarely permitted to the individual—namely, contract out of the Act? A committee of workmen form a scheme; they persuade a number of insured people to join the scheme and to give over their pink cards to the committee. The workmen's committee then proceed to the Insurance Committee, show the pink cards, and ask to make their own arrangements collectively. The Welsh Insurance Commissioners advised the Insurance Committees to permit these collective arrangements under Section 15, Clause 3, of the Act. They have since, it is true, repudiated their own action, but the record stands in the minutes of the Monmouthshire Insurance Committee. On Jan. 6th, 1913, the Major Committee gave the report of the conference just held at Cardiff with the Welsh Insurance Commissioners, and, speaking of the Commissioners, said: "It is their opinion that Section 15 (3) of the Act should be generously construed and any collective arrangements among the men should be encouraged."

The Swansea Hospital Staff Saves the Situation.

In consequence of this attitude of the Welsh Commissioners no less than seven schemes for seven different institutes or institutions (for they receive either name indiscriminately), to be created after the passing of the Act, have been sanctioned by one single committee—the Glamorganshire Insurance Committee. When efforts were made to persuade medical practitioners to go on the panel they were promised that all the money subscribed would go to the medical profession, but now a large proportion is to be spent on these new schemes. For the old schemes under Section 15 (4) the Commissioners and the Local Insurance Committee can ask that the institutes shall give in their accounts. There is some show of control. But under Section 15 (3) the institutes *escape* from any sort of supervision; their existence is looked upon as a private matter. [illegible] [illegible]tions, many practitioners argue, [illegible] Why should old institutions be controlled and new institutions escape any such control?

Fortunately, the movement has received a check, and the whole profession benfits by an example that may show the way out of the trouble. It was

proposed to organise a system—that is, a medical aid institution under Section 15 (3) at Swansea. The general practitioners and the panel doctors, however, found a new and powerful ally in the staff of the general hospital. The latter simply refused, except in urgency cases, to have anything to do with the members of any such contracting-out systems. The workmen on the managing committee of the
the mayor called a meeting
of Approved Societies, Fri
Unions, and the medical profession. A compromise was then effected. The question was not simple. Institutions that already existed in the country around Swansea, occasionally sent their patients to the Swansea Hospital; and the new institute it was proposed to create within the town of Swansea desired to do the same. The representatives of the workmen agreed to give up the Swansea scheme and to use their influence to dissolve those schemes that existed outside Swansea, if the hospital staff would continue to receive the patients who came from the existing institutions. This proposal was accepted, but the duration of the agreement was limited to the end of the year. The conditions have been loyally observed, only the representations made by the workmen of Swansea were badly received at the institutions of, for instance, Neath and Briton Ferry, and the Swansea delegates were told to mind their own business.

A Definite and Promising Policy.

A great issue is now before the country. The hospital staff at Swansea has said that if workmen mean to supplant the Act by establishing systems of their own they must also establish hospitals of their own, for the hospital staff would have nothing to do with the medical officers or the patients of these new-born systems. If the hospitals all over the country consent to adopt a similar policy they would be absolute masters of the situation. If the staff of one single hospital goes on strike it might possibly be replaced by a paid staff; but if the Newport and Cardiff hospitals, as now proposed, also fall into line with the Swansea Hospital it would be quite impossible to replace the staff of these, the three nearest and largest hospitals. A strike at a hospital is much easier to manage than a strike of general practitioners. Such a strike would be a very bad business for the patients, but quite good business for the physicians and surgeons on strike. The latter would get good fees for doing, under bad conditions at the patients' homes, what they had been doing for nothing under good conditions at the hospital. The British Medical Association have recommended approaching the staffs of all the hospitals throughout the country and urging them to give active support in preventing the extension of institutes and in combating those that already exist by not only refusing to recognise their medical officers but also by refusing to treat their patients. If hospital support was cut away from these contracting-out bodies they would be obliged to surrender.

Here, for once, we have a clearly defined policy with the certainty of success if sufficient discipline and unanimity is shown. A gross abuse is being introduced under Section 15, Clause 3. Dr. C. Addison, M.P., the author of this clause, went to Cardiff and held a conference, and it was then freely admitted that the clause was never intended to favour the creation of the new institutions which the next clause (4) expressly forbids. The object is to favour individuals contracting out of the Act, and *not collectivities* formed into associations, institutes, systems, or institutions. Much now depends on the attitude of the hospitals, and the general support they receive from the profession.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

MANCHESTER.

New Association for Asylum Medical Officers for the North of England.

A MEETING of assistant medical officers of asylums in the north of England was held in Manchester recently. The meeting was convened by the Midland Association of Assistant Medical Officers for the discussion of the disabilities of asylum assistant medical officers. Dr. F. J. Stuart stated that promotion had nothing whatever to do with merit or energy, but was wholly a question of good fortune, depending chiefly on the promotion of their superiors. Moreover, the pay was unsatisfactory. Many senior assistant medical officers, after many years' asylum experience, were receiving less than was paid by the Lancashire County Asylum Board with no hospital experience at all. There was another disability—in some cases these officers, even after from 10 to 15 years' service, were not allowed to marry. After discussion it was resolved to form an association of medical officers of public asylums for the north of England. Representatives were elected to arrange terms of amalgamation with other associations of the same kind that have been or are being formed in other parts of the country. Dr. Stuart was appointed secretary to the new association.

Lancashire's Work for the Feeble-minded.

From the annual report of the Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded I learn that during the year at Sandlebridge the number of boys and girls over 16 years of age is increasing. Now there are 55 boys and 44 girls over school age. In the colony there are 106 boys and 52 men, and 45 women and 66 girls.

David Lewis Trust and Distribution of £377,000.

The David Lewis Trust has now been closed. Sir William Mather at the last annual meeting, which was held in Manchester, gave an account of its work. Formed by the legatees of the late David Lewis in 1883, the testator left a fund to be administered for the benefit of the deserving poor of Manchester and Liverpool. During the 20 years the trust has been in operation £377,000 have been distributed. Sir William Mather stated that the schemes which had been supported were: In Manchester, the Blackley Recreation Ground, £21,211; Ardwick Playground, £9554; Salford Recreation Ground, £21,134; donations to sundry charities, £4650; the David Lewis Epileptic Colony, £118,661; making a total for Manchester of £175,210. Liverpool had received £192,622, devoted to the following objects: Northern Hospital, £107,944; Nursing Association, £11,041; hostel and club, £73,637. In addition to these amounts a distribution has been made since the liquidation of the trust exceeding £10,000. The whole of the expenditure has been made on the strictest business lines.

Dec. 8th.

WALES AND WESTERN COUNTIES.

Swansea Housing Scheme.

THE Swansea health committee has decided to carry out a housing scheme on a site of 35 acres owned by the corporation. Altogether 500 houses are to be erected, or about 15 to the acre. In 200 houses there will be two bedrooms and in the remainder three bedrooms. The cost of the former is estimated at £172 each and of the latter at £220. The rental is to be 6*s.* and 7*s.* 6*d.* per week respectively. A few of the larger houses will have shop accommodation on the ground floor, and these, it is estimated, will cost £268 each and will be let at 11*s.* weekly. In order to keep down the cost of the smaller houses the bedrooms only just comply with the minimum of 72 feet of floor space required by the local by-laws. The medical officer of health, Dr. T. Evans, has urged that they should be increased in size, even though the additional cost of erection necessitates a subsidy from the rates. He contended that housing should be regarded in the same light as the construction of waterworks or sewers or other provisions for the prevention of disease.

Newport Schools for Mothers.

The fifth annual report of the Newport (Mon.) Schools for Mothers is a record of continued useful work. There are now three of these schools in different parts of the town, where instruction is given to women in the feeding and general bringing up of children, the making of garments, &c. Milk is supplied to necessitous mothers who nurse their children, so that an encouragement is given [illegible]. It is of interest to note that the [illegible] f health, Dr. J. Howard-Jones, in his annual report for 1912, stated that inquiries were made during the year with respect to 2073 births, and it was found that no fewer than 87 per cent. were wholly breast-fed, and only 8 per cent. were entirely artificially fed. Inquiries made at the end of six months with respect to 302 children showed that 72 per cent. were still breast-fed. The death-rate among the infants brought to the schools was 49 per 1000 compared with 117 in the whole borough and with 57 per 1000 in one of the wards and 164 in another. Since October last a visiting medical officer has been engaged [illegible] attending once in six weeks at each of the tl [illegible] schools. It is no part of his duty to treat [illegible] children, but he advises when treatment by [illegible] family doctor is desirable.

Decrease in Vaccination in Bristol.

During the 12 months ended Sept. 30th 1618 primary vaccinations and 51 revaccinations were performed by the public vaccinator of Bristol compared with 1974 primary vaccinations and 266 revaccinations in the preceding year.

The Royal Albert Hospital, Devonport.

At the annual meeting of governors of the Royal Albert Hospital held on Nov. 22nd the medical report stated that the number of patients treated during the past 12 months had been smaller than in the preceding year, but the cases were of a more serious nature, necessitating longer stay in the hospital. The financial statement showed that the balance against the hospital, which was £691 at the commencement of the year, now amounted to £2426. The managing committee expressed themselves "deeply conscious of the serious condition of this deficit," and made a strong appeal for increased financial support.

The Research Defence Society.

The annual meeting of the Devon branch of the Research Defence Society was held at the Museum Hall, Torquay, on Nov. 15th, Admiral Sir W. Acland, Bart., C.V.O., presided. Miss A. M. Corthorn, M.B., B.S. Lond., gave an interesting address on "Wherein Lies the Cruelty?"

A District Medical Officer's Salary.

At the last meeting of the St. Thomas's board of guardians it was decided to increase the salary of Mr. C. E. Gaitskell, the medical officer for the Lympstone district, Devon, from £12 to £18 per annum.

The late Robert Leamon Bowles, M.D.St. And., F.R.C.P. Lond.

Dr. R. L. Bowles died at his residence, Priors Mesne, Lydney, Gloucestershire, on Nov. 15th, in his eightieth year. Dr. Bowles qualified as M.R.C.S. Eng. in 1856. In 1875 he became a Member of the Royal College of Physicians of London, and in 1882 a Fellow thereof, graduating as M.D. St. Andrews University. Dr. Bowles practised for many years at Folkestone, and at the time of his death he was honorary consulting physician to the Folkestone Hospital and to the St. Andrews Convalescent Home. He was the author of a method of treatment of the apparently drowned, and contributed the article on Stertor to Quain's Medical Dictionary. Dr. Bowles had retired from active work for several years, and had recently taken up his residence at Lydney.

Dec. 9th.

SCOTLAND.

Insured Persons in Edinburgh Royal Infirmary.

IN view of the adverse effect of the National Insurance Act on the finances of the hospital, a representative number of delegates from Approved Societies and Insurance Committees in Edinburgh and the neighbourhood, on the invitation of the board of managers of the Royal Infirmary, met in their board-room for the purpose of an interchange of views on the subject of the steps to be taken in regard to the members of Approved Societies who [illegible] at the institution. The managers [illegible] passed resolutions whereby the [illegible] open as before to all persons insured or non-insured, but at the out-patient department only cases of urgency, accident, or suitable for consultation could be seen. This scheme, which has now been in operation for ten months, has met with the approval of all persons concerned. After an account of the state of affairs by the chairman, followed by discussion of various points involved, the following motion was agreed to unanimously:—

> Having heard the chairman's statement, and knowing the needs of the institution for funds, while we have no power to commit our societies to any definite sum, we as representatives agree to recommend all our societies to take the needs of this institution into their favourable consideration

Medical Treatment for Edinburgh School Children.

An important development in connexion with the Edinburgh School Board this past session has been the introduction of a scheme providing for the special medical treatment of necessitous school children. Last year £850 was allocated to the board for this purpose, and accordingly premises were taken in [illegible] formed into a m[illegible] dentists, one of [illegible] have had chai[illegible] departments, an[illegible] January last.

A Successful Bazaar.

In view of the great need for funds to carry on the work satisfactorily at the hospital in Nazareth a bazaar was held in the Music Hall, Edinburgh, for two days last week. The amount aimed at was £5000, but so successful was the scheme that more than this sum was realised.

Edinburgh Royal Blind Asylum.

The annual report recently issued shows a considerable expansion in the sphere of work undertaken by the institution. During the year there were 290 inmates and 138 outdoor pensioners. The wages for workers were raised, the standard wage for men being increased from 20*s.* to 21*s.* At the end of the school year there were 26 boys and 28 girls in the school. The subscriptions remain about the same as in the previous year, but there has been a considerable increase on the sales, this year the amount being £20,411.

Highlands and Islands Medical Service.

A circular has been issued by the Highlands and Islands (Medical Service) Board asking for suggestions for the distribution of the fund. The board are convinced that the intention of the Act is to provide for a development and correlation of the existing public services so far as that can be effected by combination amongst the bodies concerned, and no payment will be made from the fund except as part of a well considered scheme in which all of the existing services can be turned to the best account. The board insist that the [illegible] take reasonably full [illegible] under the statutes in [illegible] and application of the fund must be in accordance with a scheme, or schemes, prepared by the board and approved by the Secretary for Scotland, with the consent of the Treasury, and the board propose to proceed [illegible] is regarded as at all practicable. A copy of this circular has been sent to a[illegible] trict committees, insurance [illegible] education committees, distric[illegible] district lunacy boards, p[illegible] councils, and school boards, and to all medical practitioners in the area covered by the Act.

Dec. 9th.

IRELAND.

Dinner to Sir Andrew Horne and Sir Robert Woods.

A SIGNAL compliment was paid last week to Sir Andrew Horne and Sir Robert Woods, when, in recognition of the knighthoods recently conferred [illegible] of the Master of the Rolls. The Presidents of the two Royal Colleges attended with their maces, and the company included members of all the professions. Dr. James Little, senior Fellow of the Royal College of Physicians of Ireland, proposed the toast of "The Guests of the Evening." He emphasised the fact that the success which Sir Andrew Horne and Sir Robert Woods had attained [illegible] s of professional work [illegible] which were approved [illegible] brethren and by the public.

Medical Men's Fees in Criminal Cases.

An application was made on Monday last to Mr. Justice Madden, sitting as judge of the Leinster Assizes, with reference to the fees allowed to medical witnesses appearing in criminal cases. Mr. Battersby, on behalf of a number of medical men, asked that the present fee of two guineas a day should be increased to three, and the expenses of 10*s.* a day to one guinea. He pointed out that the cost of living had increased since the scale was fixed, and that medical men leaving home had to employ substitutes to do their work. In civil cases the rules provided for three guineas a day, and the taxing master had power to increase that amount. In reply, the judge said that he understood the grounds of the application, but that he did not think he had power to interfere. The fees were fixed by the Treasury.

The Failure of Public Health Control in Scarlet Fever.

At the monthly meeting of the Belfast city corporation on Dec. 1st it was reported that between Oct. 19th and Nov. 15th, 1913, 369 cases of infectious disease had been notified—viz., 16 cases of typhoid fever, 35 diphtheria, 5 poliomyelitis, 5 membranous croup, 18 erysipelas, and 290 scarlet fever. The number of cases of infectious diseases notified were 45 in excess of those notified in the previous four weeks, while in the corresponding period of last year the number was only 156. The chairman of the public health committee said it was impossible to control an epidemic of scarlet fever owing to the large number of mild and undetected cases that acted as carriers. The medical officer of health had been requested to write to the medical officers of health of several large cities for statistics of their notification of scarlet fever for the past five years and for the first nine months of this year, and the following were the returns of their notifications:—

	Population.	1908 to 1912	9 months of 1913.
Glasgow	1,021 500	17,467	2 330
Birmingham ...	859 644	22 217	5,641
Liverpool ...	756,553	18 990	1,520
Manchester ..	730 976	12,696	2,022
Leeds	457 295	6 441	926
Belfast	396,000	3,094	1,607
Bradford	290,540	4,152	392

A letter was also read from Professor M. Hay, medical officer of health for Aberdeen, in which he said that for many years he had been of opinion that health departments were unable to do much to stay or hinder the progress of an epidemic of scarlet fever. If Professor Hay's views are the accepted ones by public health authorities then it is clear that notification, combined with isolation [illegible] and disinfection, are so far a[illegible] ith such an epidemic disease as [illegible] the enormous expenditure of municipalities in dealing with this disease is so much money thrown away.

Dec. 8th.

PARIS.

Projectile Wounds in the Balkan War.

ONE of the most interesting of the many surgical observations made by volunteer surgeons in the Balkan war is the report of Dr. O. Laurent, recently rendered to the Académie de Médecine. As regards penetrating wounds of the abdomen Dr. Laurent thinks that a large number may be cured by surgical intervention. The chief obstacle is the difficulty of having the necessary material at hand in the zone of fire, but when that can be done many lives are saved, while laparotomies performed at distant hospitals after a long and distressing transport of the wounded nearly always prove disastrous. Those medical men at the Academy who favoured non-intervention in penetrating wounds of the abdomen may be right as regards such wounds received in peace time, but on the field of battle intervention, though entailing undeniable risks, affords much better statistics. Dr. Laurent's experience shows that in modern warfare, where the soldier fires under cover as much as possible, either lying prone or from a trench, bullet wounds for the most part occur in the anterior part of the cranium or in the hands, especially the left. Wounds traversing the cranium from front to back, which are so frequently mortal, represent more than half the deaths that occur on the field of battle. Dr. Laurent suggests the use of a metallic shield, sufficiently light, yet resistant, to protect the head; another, fixed to the left hand or on the rifle itself; and a third to protect the region of the heart and the epigastrium, in which regions traumatisms are always exceedingly grave. Many soldiers have had their lives saved by the chance presence of a pocket-book filled with papers, or even of a metallic cigarette-case, in the left breast-pocket of their tunic. Superposed sheets of paper have always constituted, even in ancient wars, an excellent shield. As to the penetrative force of projectiles, Dr. Laurent shares the opinion of Delorme, and has always found it proportional to the speed of the ball, not as it issues from the arm, but at the time of impact. Up to 300, 400, or even 500 metres, veritable explosive effects may be seen. From that distance up to 1000 metres the wounds are less, and their gravity is dependent on the region affected. After 1000 metres, subject to the foregoing restriction, the wounds are of much lesser gravity. Dr. Laurent's statistics show from 82 to 84 per cent. of bullet wounds, from 15 to 17 per cent. of shrapnel wounds, and 1 per cent. of wounds by cold steel. Infection by the projectile was observed in 40 per cent. of cases by shrapnel and from 10 to 28 per cent. of bullet wounds. The number of wounds cured without any complication was 75 per cent. Shrapnel bullets have a much less penetrative force than rifle-bullets, at any rate when the shrapnel does not burst close to the soldier. Shrapnel bullets are very often found embedded in the clothes, but never rifle bullets.

Antityphoid Inoculation in the French Army.

Dr. Léon Labbé, senator and surgeon, has introduced a Bill to make antityphoid inoculation compulsory in the army. Dr. Labbé points out that typhoid fever occupies the most fatal place among infectious diseases in the army. During the last 20 years the French troops in France have had 66,000 cases of typhoid fever with 10,000 deaths. There has, indeed, been a progressive decrease since 1888, when the barracks were supplied with tap wa[illegible] or filters. In 1888 the mean was 4800 cases with 800 deaths. During the last few years it has been 1600 with 250 deaths. As compared with foreign armies the typhoid-rate, though on the decrease in the French army, is still high, and with troops in the field, wh[illegible] prophylactic measures are almost [illegible] in Morocco, typhoid fever still remains one of the gravest scourges. In the American army antityphoid inoculation, which up to 1911 had been optional, had given such results that at that date it was made compulsory. The experiments in Morocco by Professor Vincent, of Val-de-Grâce, as also those of Professor Chantemesse, had given such striking results that hesitation was, according to Dr. Labbé, wrong. No accident had occurred in 100,000 inoculations, while the proportion of cases of typhoid had been as follows: inoculated, in France, 0 per 1000; in Eastern Morocco, 0 per 1000; non-inoculated, 38·23 per 1000 with 5·51 deaths. In Western Morocco, inoculated 2·96 cases per 1000 with 0·09 death; non-inoculated, 168·75 per 1000 with 21·291 deaths. A laboratory installed at the School of Military Medicine at Val-de-Grâce, where the vaccines of Professor Vincent are now prepared, has distributed the vaccines widely, supplying them even for the belligerents in the Balkan war. Dr. Labbé proposes that this inoculation should be made compulsory for all soldiers on enlistment.

Antigonococcic Vaccines.

Two antigonococcic vaccines are now in use in France. That of Dr. Besredka, of the Institut Pasteur of Paris, is prepared after the method of sensitised vaccines. It has the disadvantage of having to be freshly prepared, and cannot be kept. It appears to have given, especially in women, remarkable results. In metritis and salpingitis it has of itself been able to effect a cure without any other treatment, but in male urethritis in any stage and in vaginitis the results have been only moderate. Dr Cruveilhier, who has used this treatment extensively, has perfected it in this last point by using ovules and tampons impregnated with the antigonococcic vaccine, after the method of Dr Louis Martin in diphtheria, wl[illegible] amelioration by painting the [illegible] with the antitoxin in addition to giving it hypodermically. The vaccine of M. Nicolle (director of the Institut Pasteur at Tunis) and M. Blaisot keeps its properties for a long time and can be transported. It appears to be particularly active in the complications of blennorrhœa in the male, such as orchitis and prostatitis, in which it has given remarkable results, as well as in gonorrhœal rheumatism, but it has little effect in urethritis.

Death of Dr. Hérard.

Dr. Hérard, who recently died at the age of 94, was almost the *doyen* of the *médecins des hôpitaux* of Paris and of the members of the Académie de Médecine, having only one elder, Dr. Empis, now aged 96. Dr. Hérard had been professeur *agrégé* at the Faculty of Medicine of Paris, and 24 years ago was President of the Académie de Médecine. In collaboration with Cornil he wrote a treatise on pulmonary phthisis, which was for a long time an authority. Since his retirement he had devoted himself to the antituberculosis campaign, and was president of the administrative council of the Villepinte Sanatorium. He had been president of the Association Générale de Médecins de France.

He was a man of very high character, of marked uprightness, and of exemplary professional scrupulousness.

Dec. 9th.

BERLIN.

Meeting of University Professors.

A MEETING of teachers in all the faculties of the German universities was lately held in Strassburg, the principal subject of discussion being the granting of the doctor's degree. Professor Amira, of Munich, in his report stated that a rivalry existed between the individual universities as to granting the largest number of degrees. The question was greatly complicated by the fact that the professors had a financial interest in the granting of degrees—because they receive the fees paid by the candidates. There were great variations in the fees required by the individual universities, varying in the medical faculty, for instance, from 300 to 770 marks (from £15 to £33 10s.). The meeting adopted a resolution to the effect that the financial interest of the professors in the granting of degrees must be abolished, and that a commission should formulate proposals for this purpose and submit them to the next meeting. Another subject of discussion concerned the proposed foundation of new universities in several cities, as, for instance, in Frankfort, where the necessary funds are already collected; in Dresden, where the matter is still under discussion; and in Hamburg, where the plan has meanwhile been dropped. The proposed new universities, unlike the existing ones, are due to the initiative of the municipalities. They will not include the four classical faculties of the old universities, but only some of them, the theological faculty being absent, and in some the medical faculty also. Professor Beer, of Leipzig, and Professor Kaufmann, of Breslau, spoke against the proposed new universities. They said that it has been argued that the number of students in some of the existing universities, especially those in Berlin, Munich, and Leipzig, was much too great. The students, however, could not be induced to leave these universities for the new ones, and the result would be that still more young men would enter the academical professions owing to the facilities offered to them by the newly founded universities, although academical careers were overcrowded by about 40 per cent. The opinions of the last speakers were controverted by several of the audience, especially by Professor Ziegler, of Marburg, who declared that the competition of the proposed new universities would be a stimulus for the older ones to reform their programmes.

Prophylactic Inoculation for Varicella.

At a meeting of the Berlin Medical Society a foreign guest, Professor Medin, of Stockholm, read a
varicella.
urring in
ith severe
symptoms on account of the presence of complications, especially nephritis. Attempts to convey the virus to healthy persons for the purpose of producing a milder form of the disease have not been successful until Professor Medin took
vestigation. During last August an e
varicella broke out in the Stockholm
Hospital, where about 50 children, for the most part in the first year of their age, were attacked. Professor Medin succeeded in conveying the virus in 58 cases to healthy children, the result being that only a slight eruption of pustules appeared in the neighbourhood of the place of inoculation without any general symptoms. He was of opinion that the inoculated children had become immune by the inoculation. Photographs of the children were shown to the society, where the paper read by the distinguished guest was very much applauded.

Combination of Clerical and Medical Functions.

In a letter in THE LANCET of April 15th last I reported the case of a medical man who became a clergyman and obtained a benefice, but nevertheless continued to practise medicine for the benefit of the poor of his parish. Another instance of this unusual combination of clerical and medical functions has recently been reported by the daily newspapers, the difference being that a clergyman, while holding his clerical office, had completed a medical curriculum. The case happened in Saalfeld, in the neighbourhood of Jena, which is a University town, and acquired publicity from the fact that the clergyman, having passed the State examination, asked the vestry for one year's leave of absence for the purpose of hospital attendance during his practical year according to the regulations. The vestry has granted the request.

Dec. 8th.

ITALY.

Medical Representation in the Senate and the New Chamber.

OF the 29 newly nominated Senators three are members of the medical profession—Professor Girolamo Gatti, director of the Surgical Clinic of the Children's Hospital in Florence and a well-known writer on economic and agricultural subjects; Professor Ettore Marchiafava, consulting physician to His Holiness Pope Pius X. and director of the Institute of Pathological Anatomy in Rome; and Professor Carlo Forlanini, professor of clinical medicine in the University of Pavia, the inventor of the method of treatment of pulmonary tuberculosis
by the induction of
comprises 36 mec
Baccelli, Professor
and Professor Q
group resolves itself into 16 Liberals, 10 Radicals, 7 Socialists, 2 Democrats, and 1 Republican. There were 92 medical candidates, of whom 45 were Liberals, 15 Radicals, and 22 Socialists. The last Chamber also contained 36 members of the medical profession.

The Eugenic Movement.

The Roman Society of Anthropology has recently taken the initiative in founding an Italian com-
the purpose of
the committee
producing the
decadence or progress of races, research on normal and pathological heredity, the importance of the condition of the organism at the time of the act of reproduction, and the influence of environment.

An Institute of Forensic Medicine.

There has just been opened in Milan an Institute
sists of rooms for electro-
for X ray examinations,
ds, and for photography;
chemical, microscopical, and bacteriological laboratories; and a good library. Its object is the practice of the finer methods of medico-legal research,

the study of criminal psychology, and the scientific investigation of the results of accidents.

Compulsory Notification of Tuberculosis.

There is much talk of this with the idea of bringing Italy in line with England, Germany, and other countries where notification is now compulsory; but the Royal Society of Hygiene at Milan the other day voted that it should not be introduced until adequate provision has been made for the care of the sick and the protection of the public health. This stipulation applies especially to country districts. A proposal th[illegible] should be compulsory in the great [illegible] adequately equipped for treatment and prophylaxis was not agreed to. This seems a pity, for in these circumstances the so-called "denuncia silente" would not harm and would probably benefit the sick men, and would put a stop to such a state of things as the proposer of the motion stated to exist at Novara and Vercelli, where he declared that two-thirds of the subjects of tuberculosis sleep in the same room with [illegible] and half of them in the same bed [illegible] persons.

Dec. 6th.

BUDAPEST.

Increase of the Fees for Medical Examinations for Life Assurance.

AT the October meeting of the Hungarian Medical Association a resolution was adopted to the effect that the medical profession, in view of the general rise of wages and the remarkable increase of the prices of provisions, will raise the fees of medical examinations for life assurance, which have remained unchanged for the last 30 years. The new fees [illegible] If the insured sum is under 5000 kronen (about £20[illegible] fee will be 10 kronen (8*s.* 4*d.*), and for sums [illegible] 5000 kronen the fee will be 20 kronen. [illegible] required to have these [illegible]usively by their duly appointed [illegible]om they must retain in their [illegible] negligence be shown, but even in this case the dismissal of a duly appointed medical officer must be reported to the insurance committee of t[illegible] If [illegible] calls on a [illegible] and if the latter objects to being examined or cannot be found at the appointed time, the company will have to pay half his fee to the medical officer. The new tariff has been adversely criticised by the insurance companies, who object that they were not consulted at all before the resolution was moved. In reply to this the official journal of the Association remarked that it would have been superfluous, and even absurd, to ask the companies if they would like the fees to be increased; and the article went on to say: "If the Association passes a resolution, then it has reason to do so and need not inquire whether outside opinion approves or disapproves of its resolutions."

The Treatment of Cholera by Injections of Atropine.

Dr. Julius Oláh has published a work explaining the theory and practice of the treatment of cholera with injections of atropine. He says that on the ground of pathological investigations and pathologico-physiological deductions he regards cholera as an infectious disease in which the severest manifestation is the fall of the energy of the heart, which he attributes to over-excitement of the vagus nerve. Acting on this assumption he formerly treated cholera patients with camphor injections, but he acknowledges that he does not regard camphor as a specific remedy for cholera, because it acts as a stimulant of the nervous system, and does not reduce the hyper-excitement of the vagus nerve. He therefore continued his investigations in the hope of finding a drug which [illegible] specific action. [illegible] studies led [illegible] admitted to [illegible] poisoning, c[illegible] counteracti[illegible] of the vagus nerve, sometimes [illegible] a partially paralysed state. He [illegible] to have discovered that atropine injected subcutaneously is capable of mitigating or even stopping the severest manifestation of cholera—namely, the fall of the energy of the heart—even in the most developed stage of an attack. An imperceptible pulse becomes perceptible in three or four hours after the injection of one milligramme of atropine, which fact proves the rise of the heart's energy. He emphasises the importan[illegible] the atropine treatment at the first [illegible] attack of cholera because by [illegible]sion of the energy of the heart is prevented, and consequently the severest developments of the disease remain absent; neither cyanosis nor congestion supervenes, and the temperature of the body does not fall. The action of the kidneys may deteriorate somewhat, but [illegible] of urine does not cease; [illegible] and consequent uræmia [illegible] ministering atropine to a [illegible] right time it is possible [illegible] of the attack to that of muscarine poisoning. In the closing pages of the book Dr. Oláh [illegible]is aim in publishing it is to induce his [illegible] to try the atropine treatment on patients [illegible] care. He further remarks that his [illegible]ht be advantageously tried in British India, where cholera is prevalent. He says that England was the country where the fight against small-pox originated in the eighteenth century, and wh[illegible] of lives were saved thanks to the [illegible] It would be a further triumph, he says, if England succeeded in checking the ravages of cholera by employing the atropine treatment.

Dec. 8th.

INDIA.

The Cause of Leprosy.

FOR some time past the Government of India have been contemplating an inquiry into the etiology and treatment of leprosy. The services of Major A. Gwyther, I.M.S., lately civil surgeon of Darjeeling, have been secured for the purpose. The Government of Bengal have already placed his services at the disposal of the Director-General of the I[illegible] S[illegible] and it has been settled tha[illegible] be attached to a leper asylum in Behar for his inquiry. He will work under the auspices of the Indian Research Fund.

Queen Mary Medical College for Women.

The drawings and designs for the Queen Mary Women's Medical College and Hospital at Delhi are now being prepared by the architect to the Government of India. The buildings will be constructed of red and white stone, and the design is on indigenous lines.

Yellow Fever in India.

For the present the invasion of India by yellow fever does not appear imminent. Major S. P. James, who was deputed to study yellow fever in its endemic area and recommend measures for averting the danger of the introduction of the disease into India, or stamping it out should it appear, has now returned to India, and is of the opinion that the opening of the Panama Canal will not immediately, at any rate, increase the present danger of India becoming infected with the disease. Should any of the countries further east, however, become infected the danger will, of course, become more imminent. He believes that the main trade routes are unlikely to be materially altered, and as they exist at present the chances of importing infected mosquitoes are not considerable. Honolulu, the first port of call, takes very thorough precautions against the disease, thus affording a strong protection against the infection of the East, and, after leaving Honolulu, ships to Hong-Kong pass northwards into latitudes not favourable to the life of yellow fever mosquitoes.

Sanitation in Mymensingh.

There are many sanitary defects in the town of Mymensingh, chief of which is the matter of drainage. There is no regular system. Even in the most crowded quarters the drains are very imperfectly constructed.

The Retirement of Surgeon-General Stevenson.

[illegible]

on his retirement. His services to the Government have been recognised by several distinctions, the latest being that of C.S.I., but the passing of the Act for the Registration of Medical Practitioners, which was initiated and carried through by him in the face of great opposition, and his interest in the College of Physicians and Surgeons of Bombay, are rightly regarded as services to the profession at large.

The Health of the New Capital.

Few Indian cities show more noteworthy fluctuations in respect of public health than does the municipal area of Delhi. In 1907 and 1911, for instance, the total deaths exceeded 14,000, whereas in 1909 and 1910 they were between 9000 and 10,000. It is obviously the mortality among children under one year of age that maintains the figures at so high a level. This mortality, among a population of about 215,000 and within an area where the births annually number between 10,000 and 11,000, is certainly appalling—4577 infants died in 1908, 3270 in 1910, nearly 4000 in 1911, and 4091 in 1912. Only improved sanitation and medical reform can check the ravages of disease among the children of Delhi, and the people themselves must be stimulated to bring about a better state of things. As to the general health of Delhi in 1912, it is satisfactory to learn that the deaths from malaria were fewer by 2507 than in 1911, and that only 20 persons died from plague. Small-pox deaths, however, rose to 445, an increase of 141. The coming cold weather promises to be healthy, inasmuch as the failure of the later rains should prevent a prevalence of malaria.

Nov. 24th.

AUSTRALIA.

National Insurance.

THE Federal Government is going on with the proposals for a scheme of National Insurance. The Bill is at present in the hands of the Hon. P. M. Glynn, who is making inquiry and collecting statistics. The Government statistician has issued circulars to medical societies and pharmacists asking for information and comment. It is considered unlikely that any legislation will be immediately introduced. In the first place, there is some doubt as to the permissibility of such legislation under the Constitution, and in any event the Friendly Societies, who are much more powerful in Australia than Great Britain, have shown themselves distinctly hostile up to the present time.

Small-pox in Sydney.

The small-pox epidemic in Sydney is still a troublesome visitation. Well over 1000 cases have been quarantined, and new cases are still occurring daily, though the average is notably less than formerly. The question of the quarantining of Sydney has become fiercely political. The Labour members in the Federal Parliament seek to discredit the Government by insisting on the urgent need for removing the quarantine, and they draw lurid pictures of the ruin and desolation of Sydney, which, it is needless to say, are purely imaginary. The serious disappointment has been the weak and spiritless attitude of the New South Wales Government towards vaccination. Mr. Holman, the Premier, brought down a Bill providing for compulsory vaccination and revaccination, but it was never an earnest attempt. The provisions were not to apply for a year, and any parent or other person liable could, by a simple declaration of conscientious objection before a magistrate, be exempted from vaccination altogether. The Bill was defeated, as everyone knew it would be, and the matter has now dropped until some new outbreak occurs. The character of the epidemic continues mild and no fatality has been recorded, save that of a female patient who died in childbirth at the quarantine station.

Summer Diarrhœa.

The New South Wales Government has decided to open a babies' hospital for the treatment of infants suffering from summer diarrhœa. The general direction will be undertaken by Dr. R. T. Paton, the Government medical officer, and a committee of women will manage the housekeeping and general organisation. In Melbourne the committee of the Lady Talbot Milk Institute made its annual pilgrimage to the Treasurer with a request for monetary assistance and received a sympathetic reply. For some reason, not quite apparent, this institution has evoked a good deal of hostile criticism, and it is a little difficult to obtain any clear idea of the actual results of its efforts. It has, however, a powerful medical committee, which seems to be satisfied that good work is being accomplished.

Charities Bill.

The Charities Bill in the Victorian Parliament has not yet been passed in the Lower House. The measure provides for the appointment of three commissioners who would exercise a general supervision over the working of public charities and distribute the annual Government grant. They would also have power to close existing institutions and prevent new ones being inaugurated without their consent. The Bill has met with considerable opposition. The chief amendments so far are that the board has been increased from three to five members, and there is a demand that one or more shall be women. It is unlikely that the Bill will pass this session.

Nov. 7th.

Correspondence.

"Audi alteram partem."

EPSOM COLLEGE.

To the Editor of The Lancet.

Sir,—I shall be grateful if you will give space for this brief letter whereby I desire to draw the attention of your readers to the advertisement (page 57) of Epsom College and its Medical Foundation.

Particulars will be found therein (1) of the educational advantages offered by Epsom College as a secondary school with a very highly equipped modern side as well as a classical side of the first order; (2) of the Royal Medical Foundation attached to the College, by means of which a large number of pensionerships and foundation scholarships are provided for the necessitous members of the profession and their families; and (3) of the imperative need of rebuilding and enlarging the College chapel.

I should hope that the notice respecting the College chapel fund especially will meet the eye of many an old Epsomian, that it will be read by them with sympathetic interest, and that the fund will derive both direct and indirect assistance from them. I am, Sir, yours faithfully,

Henry Morris,
Honorary Treasurer.

Cavendish-square, W., Nov. 27th, 1913.

ADVERTISING AND CANVASSING UNDER THE NATIONAL INSURANCE ACT.

To the Editor of The Lancet.

Sir,—In the report of the proceedings of the General Medical Council you have printed copies of the letters addressed by the Registrar to certain practitioners and the secretaries of Approved Societies concerned in the distribution of advertisements and in canvassing for the purpose of inducing the transfer of insured persons to the medical care of practitioners selected by the societies. By writing these letters the Council desired to warn practitioners whose conduct had actually been brought under its notice of the risk they were running, but there is reason to fear that the evil may be widely spread. Such action imperils the principle of the free choice of doctor, and it is the duty of the Council to protect this principle in the interests of the public. It cannot be tolerated that it should be set aside to suit the desire for power of Approved Societies or the short-sighted selfishness of a few medical practitioners, and these have now fair warning that by their conduct they are risking their position on the Register.

It must not be pleaded that the societies and not the doctors are responsible for the advertising and canvassing by which the latter are to benefit at the expense of their colleagues. The only safe course to be taken is to sever connexion with any society that attempts to gain control of the administration of medical benefit by advertising and canvassing in favour of its own medical nominees.

I am, Sir, yours faithfully,

Birmingham, Dec. 8th, 1913. Robert Saundby.

THE UNIVERSITY OF LONDON.

To the Editor of The Lancet.

Sir,—Your leading article last week is a free sketch of some of the difficult points which the Departmental Committee will have to give advice upon—and for the greater part they concern the Faculty of Medicine only. It is quite clear that no report can be made, and no action can be taken upon any report after it is made, which will not be painful to some bodies or persons, but that is a situation which cannot be avoided, nor should too much trouble be spent in trying to avoid it. We do not in London want to have temporary peace bought by the introduction of any half-hearted scheme.

There is obviously no necessity that the professors should be only at three schools, so that one sure way of escaping trouble is indicated. The first proposal of the St. Bartholomew's Hospital Medical School which was given in evidence before the Royal Commission,[1] while expressing the view that for purposes of advanced teaching and research the establishment in London of cliniques under university professors is desirable, said that the University should appoint from among the present members of the staffs of the hospitals attached to the schools of the University or at some of the special hospitals a certain number of university professors and should provide them with adequate endowments. In this way, of course, all the existing 12 schools would be associated with the new University, and presumably it will not be beyond ingenuity to suggest a scheme by which that portion of the school which is integrally associated with the University curriculum should be brought under the control of the University. The administrative difficulties here would be much greater than they would be if the University started with complete control of two or three schools, adding others as necessities arose, but it may prove impossible to obtain over any schools, at any rate in their existing relations to hospitals, that complete control which would be necessary to carry out the professorial scheme which is the ideal of some. It may be possible to get something from 12 places when it is impossible to get all things from three.

I am, Sir, yours faithfully,

Frank J. Wethered.

THE APOTHECARIES' HALL OF IRELAND AND THE GENERAL MEDICAL COUNCIL.

To the Editor of The Lancet.

Sir,—I submit that the action of the General Medical Council in sending on to the Privy Council "for the information of their lordships" certain charges against the Apothecaries' Hall is grossly unconstitutional. I suggest that this action would not have taken place if their law adviser had been consulted.

Sir Donald MacAlister, who was not present at the meeting, has stated: "By successive judicial decisions it has been laid down that in its procedure the Council, sitting as a tribunal, must as nearly as possible follow the forms and rules customary in other courts" (Smith's "Law for Medical Men"). It is unheard of in British legal procedure that an attempt should be made to prejudice a Court of Appeal by influencing the judgment of the court in a case not yet before it.

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[1] Appendix to Fifth Report.

It is perfectly competent for the General Medical Council, after adequate consideration, to report to the Privy Council that the examinations of any university or corporation are "insufficient." It is not competent for the General Medical Council to forward documents containing charges against any university or corporation which might be calculated to deflect the judgment of the Privy Council in any case which might subsequently come before it.

It is true that the Apothecaries Hall appealed to the Privy Council for protection; it is also true that the Privy Council saw no sufficient reason for interfering at present, but that incident is now closed. The Privy Council has delivered its opinion after hearing both parties, but it cannot now listen to any further statements on the matter.

If one were to visit a judge in his private club and make statements against one of the parties in a case which might come before him he would sternly resent the action, even if it were only done "for his lordship's information." The only constitutional way in which the General Medical Council can bring the affairs of the Apothecaries' Hall before the Privy Council is by a statutory statement that the examinations "are insufficient." This it cannot possibly do, for the Apothecaries' Hall holds no less than 40 reports of inspectors of the General Medical Council solemnly declaring that the examinations of the Hall "are sufficient." Even if the General Medical Council were inclined to do so they cannot act otherwise than on the reports of their inspectors.

I am, Sir, yours faithfully,

J. C. MCWALTER, M.D., LL.B.,
Barrister-at-law, Governor of Apothecaries' Hall,
Dec. 6th, 1913. Dublin.

THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LONDON.

To the Editor of THE LANCET.

SIR,—At a meeting of the Board of the Faculty of Medicine on Thursday last I moved the following:—

> In continuation of the policy of their interim report, the Board of the Faculty of Medicine advises the Faculty to recommend that in the event of a constituent college or colleges being founded, on the lines of the Report of the Royal Commission, a wider degree of autonomy than that contemplated by the Report of the Commission shall be reserved for the schools other than the constituent colleges. It recommends that the privilege of reporting direct to the Senate, through the special committee for schools to be appointed by that body, shall not be given up, as the Report of the Commission suggests, when the constituent college or colleges and the new Faculty of Medicine come to be constituted.

This motion was passed *nem. con.*, all the members present voting for it with the exception of one member, who did not vote at all. The discussion left no doubt that the Board would prefer the realisation of the suggestions outlined in their interim report, which postulated, if it did not actually say so, that no constituent college or colleges, in the sense of the Commission's report, should be established, and that no division should thus be introduced into the medical schools of London by setting up a small and privileged class of collegiate teachers and students. But if such constituent college or colleges should actually come into being, the Board equally left no doubt that it greatly disliked the regulation imposed by the Commissioners by which the teachers at the schools would be subordinated to the teachers at the college, a subordination which would inevitably result from the requirement that the new Board of Studies should report to the new Faculty of Medicine, and not direct to the Senate. In this connexion a question has been raised which becomes important in view of the current consultations between the Departmental Committee and the hospital schools. What action would that committee take in the event of none of the existing schools consenting to transform itself into a constituent college in the sense given to that term by the Commission, which certainly must have considered the possibility of such a refusal? The Commissioners, I think, clearly suggest, but do not categorically say, that in that event an attempt would be made to found a new hospital school, created *ad hoc*. The opinions expressed by Mr. Abraham Flexner are so clearly the genesis of the medical recommendations of the report that Mr. Flexner's statements are often an invaluable gloss where there is any obscurity in the Commissioners' statement. As Sir Henry Morris writes:—

> The sections of their report dealing with the Faculty of Medicine are in substance merely an abstract of Mr. Abraham Flexner's Bulletin No. 6 "On Medical Education in Europe," and of his evidence published in the Third Report of the Commissioners. Mr. Flexner's opinions on the preliminary sciences, where and how they should be taught; on the school unit; on the inter-relationship and mode of studying, and on research in pathology, bacteriology, biochemistry, and clinical medicine; on the changes thought to be required in clinical teaching owing to the rapid progress in sciences related to medicine; on the hospital unit, or the German system of clinical instruction an [illegible]
> to [illegible]
> Co [illegible]
> 1913).

Now Mr. Flexner says (Bulletin No. 6, p. 218):

> Let us suppose that London University, reorganised on its teaching side, cut adrift the hospital schools, *creating its own hospital* (the italics are mine), or retaining for the present a single hospital...... or more simply still, should by subvention enable one of its constituent colleges—viz., University College—to complete its medical plant on an academic basis by making with University Hospital a *contract arrangement giving University College the right to* designate and organise its hospital staff. ...... University Hospital would at the moment perhaps answer the needs of London medical students of university grade.

Again, Mr. Flexner, quoted by the Commission (p. 109, top), says:—

> The first step in the direction of modernising medical education would appear to lie in the total conversion of an existing school or in the *creation in London of a new school* (the italics are mine).

Section 293 obviously indicates that the Commissioners would prefer to utilise one of the existing schools to making a new school, but also shows that they consider the possibility of making a new school if satisfactory arrangements cannot be made with any existing school. They point out (end of Section 301) that the hospitals do not belong to the medical schools, and

> if they are required for a University Faculty of Medicine in London, the question of privilege of access to the great London hospitals cannot be treated as a matter of private

right or decided as if they were the private property of the existing medical schools.

They say (Section 302) :—

> The proper course for the University would be to endeavour *in the first instance* to enter into an agreement with the executive authority of one or more of the London hospitals with regard to the future of the hospital medical school.

The inference from the clause I have italicised seems obvious that if this first attempt failed, in spite of the public right here laid down to appropriate a hospital to the use of the University, the latter should proceed to establish the new school. Although the Commissioners deprecate setting up an opposition to the existing medical schools, they plainly foreshadow such an opposition if no existing school wishes to comply with the conditions upon which alone it could be accepted as a constituent college. Whether they would find it an easy matter to establish a new hospital school with 600 beds is, of course, quite another question.

I am, Sir, yours faithfully,

Dec. 8th, 1913. E. GRAHAM LITTLE.

SEWAGE DISPOSAL IN THE SOUTH OF ENGLAND.

To the Editor of THE LANCET.

SIR,—Since returning to England I have been engaged to some extent in the interesting, if tiresome, occupation yclept house-hunting, and in paying a few visits to houses in the vicinity of London.

I find that it is a common practice in places where there is no main drainage, but where the subsoil consists of chalk, to discharge the house drainage into a so-called cesspool in the chalk. I say "so-called" because such pits have no concrete or cement bottoms as a rule. Even when the bottom is formed of bricks set in cement I find it is often the custom to knock one or two of the bricks out and thus allow the liquid contents of the pit to drain away into the underlying chalk. In many cases this is what the architect aims at. He is delighted to find chalk. It simplifies matters for him, and so the cesspit is not provided with a bottom, and the liquid sewage and the urine and the slop waters find their way into the permeable chalk, which, of course, is not infrequently a water-bearing area. Indeed, in one case which came under my notice the cesspit in the chalk was on the side of a steep slope at the base of which, half a mile distant, were two cottages which obtained their water-supply from a shallow well sunk in the chalk.

Surprised at these discoveries, I instituted further inquiries and found that the surveyors rarely, if ever, submit drainage plans to the medical officers of the districts. Indeed, I am credibly informed that in London itself it is the exception rather than the rule so to honour the medical officer of health.

Now surely there is something very far wrong here. It is true that, even with such methods prevailing, everything may go on swimmingly (in a double sense) for a long period, but in certain places, sooner or later, there is at least a possibility that enteric fever will make its appearance and take toll of human lives. It is because human lives, the lives of innocent people, may be at stake that I wish to draw attention to this state of matters, which, to my mind, is a blot upon the sanitary escutcheon of the south of England.

I can only say that things are further advanced in many of the colonies where perhaps men are brought closer into touch with the dire effects of faulty methods and of communicable disease. I do not know with whom rests the blame; I do not know if public attention has hitherto been directed to this insanitary procedure; but I do know that it is high time something was done to put matters right and to make certain that all drainage plans are passed by the local medical officer of health, who naturally would be conversant with the conditions governing the water-supply of his town or district.

An eminent architect with whom I discussed the matter assured me that he had no idea infection could travel far in the chalk. That such a view is erroneous is evident from a study of several outbreaks of disease. Especially instructive is the account given by Dr. J. C. Thresh in his valuable work, "The Examination of Waters and Water-supplies," on the outbreak of typhoid fever at the County Asylum, near Cambridge. Here the fluorescein test showed that water treated with the dye took some 103 hours to travel about 1200 feet westward from the test-pit, while after about nine days it had reached a distance of 2500 feet eastward of the pit. Doubtless it is true, as Dr. S. Monckton Copeman observed, that "it does not, of course, necessarily follow, because the fluorescein should have proved capable of detection at various points, inclusive of the asylum well, at so great a distance in different directions, from the point at which it was introduced, that bacteria, harmful or otherwise, would be equally capable of transmission for so considerable a distance." He states, however, that the results of the experiments were to be regarded as decidedly instructing and interesting.

Chalk has no doubt a certain purifying influence on water in virtue of the peculiar respiratory processes which go on in it, but I think few will be found to admit that it can act as a bacteriological filter and rapidly purify a specifically polluted supply. In any case, with the law as it stands and with such methods of procedure in force, it seems to me that there is undoubtedly "something rotten in the state of Denmark," and that an inquiry should be instituted and, where necessary, such steps taken as will safeguard the public in certain districts from the risk of water-borne disease.

I am, Sir, yours faithfully,

ANDREW BALFOUR, M.D.Edin., D.P.H.Camb.,
Late Medical Officer of Health, Khartoum.

The Wellcome Bureau of Scientific Research, 54A, Wigmore-street,
London, W., Dec. 1st, 1913.

MARTIAL AND MEDICINE.

To the Editor of THE LANCET.

SIR,—Many laymen, including myself, besides members of the medical profession, will feel grateful to Dr. Raymond Crawfurd for his delightful lecture on "Martial and Medicine," published in your issue of Dec. 6th. He has set a precedent which might very well be followed in other directions besides that of medicine, for indeed Martial touches life on many sides. Meantime, we have to thank Dr. Crawfurd for a most interesting study, and, incidentally, for the very clever renderings of the epigrams which he quotes. In spite of his disclaimer at the beginning of the lecture, I, like the Colonel in "Patience," do not see how they could be improved. They are just what is wanted.

I wish, however, that under the head of "Malingering" he could have found space for the epigram (ii., 16) in which Zoilus puts in an "aeger" for the sake of displaying his bed-coverings. It is worth quoting *in extenso*, with your permission, though I cannot venture on a translation in competition with Dr. Crawfurd's happy efforts.

> Zoilus aegrotat: faciunt hanc stragula febrem.
> Si fuerit sanus, coccina quid facient?
> Quid torus a Nilo, quid sindone tinctus olenti?
> Ostendit stultas quid nisi morbus opes?
> Quid tibi cum medicis? dimitte Machaonas omnes.
> Vis fieri sanus? Stragula sume mea.

Martial complains that lettuce is now served at the beginning of dinner, instead of the end, as formerly (xiii., 14), and Horace (Sat. II., iv., 59) makes Catius say that it "innatat acri Post vinum stomacho." He is speaking of means of encouraging to fresh efforts a drinker whose powers are flagging.

As for artificial teeth, they must have been badly fixed sometimes, as Canidia's denture witnessed when her teeth fell out as she fled with Sagana, in fright at Priapus's petulant protest against their infernal incantations (Hor. Sat. I. viii. 46 seqq.).

Lastly, though it has nothing to do with the case, may I say that I have always admired Martial as being, so far as I know (if one excepts the skit attributed to Robert Browning), the only poet who has ever admitted the rhinoceros into his verse?

I am, Sir, yours faithfully,

EDWIN A. EADE.

United University Club, Pall Mall East, Dec. 8th, 1913.

SPECIFIC DIFFERENCES AMONGST BACTERIA.

To the Editor of THE LANCET.

SIR,—I have read with very great interest the address of Dr. F. W. Andrewes in THE LANCET of Nov. 1st on the Nature and Degree of Specific Differences amongst Bacteria, because it indicates that at last the development of the science of bacteriology is trending in the direction of a view of the origin and transmission of infectious diseases which I elaborated—mainly on clinical grounds and on theoretical considerations based on our then existing bacteriological knowledge—as far back as 1882. The late Dr. W. B. Carpenter, Sir James Paget, as well as Sir William Broadbent, at whose instigation I read my first paper, entitled "Suggestions for a Modification of the Germ Theory of Disease," before the Medical Society of London, which was published in THE LANCET of March 18th, 1882, strongly urged me to pursue the subject from the standpoint of experimental bacteriological investigation, but unfortunately I was never afterwards so situated as to be in a position to do so.

The whole matter took its rise out of an extraordinary case of "the apparent *de novo* origin of a disease resembling in some marked characteristics four commonly supposed distinct specific diseases." These were *typhus, typhoid, diphtheria, and small-pox*, for which no origin was ever definitely traceable. The case was seen and its origin investigated by Dr. George Wilson, medical officer of health of the Mid-Warwickshire sanitary district, who expressed in a letter to me the difficulties of arriving at a diagnosis and of definitely ascribing the origin to any pre-existing case or cases, though sanitary defects were found on the premises.

The article in THE LANCET was followed up by a paper on the Etiology of the Acute Specific Diseases, read before the Public Health Section of the British Medical Association at Worcester in 1882, and published in the *British Medical Journal* of Sept. 30th of that year. The subject was elaborated in my book on "The Evolution of Morbid Germs" ("disease germs" or "*pathogenic germs*" would have been better), published in 1883 by H. K. Lewis, and now out of print. In addition to the facts contained in the articles and the reflections thereon and deductions therefrom, the book contained an analysis of recorded or submitted clinical instances of anomalies of transmission in the specific diseases, of which anomalies four classes were defined—viz., cases (1) in which one kind of specific disease appeared to have transmitted another kind; (2) of a character so indefinite that it would be difficult to class them; (3) in which a common source seems to have transmitted diseases of *different type; and (4) of apparently de novo origin*, with in some cases progressive development in specificity of characters. It also collected and analysed such bacteriological literature of the time as had a bearing on the subject, and definitely formulated a hypothesis, offered for further investigation, both from the clinical side by the study of anomalous cases of specific diseases, and from the experimental side by laboratory investigation into the results of environment and pabulum on the biological, and particularly the pathogenic properties of micro-organisms in relation to their characteristics as the effective agents in the *production of the* acute specific infectious diseases. The hypothesis in brief was as follows: "1. A micro-organism thrives and multiplies at the expense of the medium in which it lives, splitting up the proximate elements thereof, retaining some for food, freeing others, and thus producing an analytical change in the composition of the medium; finally returning thereto 'unorganised ferments,' 'organic alkaloids,' 'colouring matters,' and other excreta, which are the result of its own vital processes, thus inducing also a synthetical change. These changes in the chemical composition of the medium inevitably originate a series of phenomena, which in dead media are termed putrefaction or fermentation, in living media disease. In the latter case the alteration in the media produces also reactionary physiological phenomena, complicating those of a physico-chemical nature.

"2. On transference of this organism from its natural to a foreign medium, a 'struggle for existence' ensues. Should the organism fail to succeed in '*adjusting itself to its environment*' it will die out; on the contrary, should it succeed in so doing it will be by adapting itself to some other kind of nutriment, its choice being probably influenced by one or both of two circumstances affecting the pabulum—viz., (1) abundance of any available kind; (2) greater or less similarity to the normal pabulum. The nature of the food selected, with the nature of the excreta dependent thereon, will *determine the character of the changes induced in* the medium, and consequently of the resultant phenomena, whether merely physico-chemical or also in addition physiological.

"3. The multiplication of generations, which proceeds very rapidly, will modify the original habits of the race, and originate an hereditary tendency to select, wherever it is forthcoming, a similar pabulum. This will entail similar excreta, and *in a similar medium a totality of similar* changes resulting in similar phenomena; while variations in both changes and phenomena more or less marked will ensue, in proportion to the difference between the media.

"4. Should a retransference into a very heterogeneous medium take place, the cycle will begin again at one.

"Here, then, we have an explanation of all the phenomena attendant upon the specific infectious diseases. Their origin is thus explained, their specificity is accounted for by successive cultivation in similar constitutions. Variability in transmission and nondescript cases merely mark a struggle for existence, ending in a survival of the fittest, which has had vitality enough to adjust itself to its new environment. Immunity, whether hereditary or acquired, may be supposed to consist in an alteration in the character of the ultimate tissue cells, consequent on their supremacy in the struggle with the bacterian invaders for oxygen and other needful materials; while indefinite incubation merely points to variations in the intensity and protractedness of the struggle between the germs and the tissue cells. *De novo* origin is no longer a bugbear, for it merely means evolution of function, as the result of a process of natural selection, and does not imply heterogenesis [more correctly, abiogenesis]; and finally, while evolution is shown to reign here as in Nature everywhere supreme, the specific diseases no longer mar the universal truth that pathology is 'physiology gone wrong,' and that disease, instead of being in itself an entity, is a mere departure from the normal line of health."

It appears to me obvious that the gaining and losing of morbific powers, the inordinate rapidity of bacterial multiplication rendering visible in a short space of time results invisible in longer-lived organisms—just as the development of a plant can be shown on the kinematograph—the greater intensity of the action of natural selection in short-lived organisms, the observed high degree of variability in bacteria, especially in relation to pathogenic power, and other points enumerated by Dr. Andrewes, show that the trend of bacteriological investigation no longer seems to impose a barrier on the clinical viewpoint I have suggested such as was imposed when the specificity and immutability of pathogenous bacteria—which, as I then asserted, was really the result of the idea of specific diseases—was more unquestionably held.

Finally, for any lack of definiteness in the nomenclature used in the foregoing passages I would point out that the book was written in 1883. I do not think there is much confusion in the main idea presented.

I am, Sir, yours faithfully,

London, Dec. 9th, 1913. KENNETH W. MILLICAN.

ABDOMINAL PAIN AFTER VACCINATION.

To the Editor of THE LANCET.

SIR,—In your annotation on this subject last week you state that this sequel appears to have been hitherto unobserved. May I point out that I described this condition in a paper read before the Association of Public Vaccinators in 1902?[1] I said: "In some delicate women vaccinia produces great epigastric pain, sickness, and intense pain in the lumbar spine or more probably in the sympathetic ganglia, while diarrhœa rarely supervenes." I compared the symptoms at the time to a mild attack of ptomaine poisoning, but clinically perhaps they are more like an attack of influenza in which the pancreas appears to be involved, or, as you suggest, the lumbar pain is comparable to the well-known lumbar pain in variola.

I am, Sir, yours faithfully,

Westerham, Dec. 5th, 1913. A. MAUDE.

THE GOVERNMENT OF THE ROYAL COLLEGE OF SURGEONS.

To the Editor of THE LANCET.

SIR,—Dr. Sidney C. Lawrence, in your issue of Dec. 6th, pronounces the last part of my letter of Nov. 17th to be "not only insolent but untrue," a pronouncement which has the double merit of being, I presume, courteous according to "up-to-date views," and also, when addressed to an octogenarian, fairly safe. But if he had read before condemning he would have seen that my case was an illustration of his own argument. I was one of those of whom he speaks as being prevented by circumstances from "taking an extended period of study;" and, in order to obtain the Fellowship, I had to wait until I became entitled, by 12 years of practice as a Member, to offer myself for examination for the higher grade. His assumed impediment was overcome in my case, and might be overcome in any other.

I am, Sir, yours faithfully,

R. BRUDENELL CARTER.

Clapham Common, Dec. 10th, 1913.

ASSOCIATION OF ASSISTANT MEDICAL OFFICERS OF PUBLIC ASYLUMS.

To the Editor of THE LANCET.

SIR,—Circulars calling meetings of assistant medical officers of public asylums in England and Wales have recently been issued. Meetings have been held at Birmingham, Manchester, Bristol, and London. Communications expressing sympathy with the object of the meetings were received from all but 14 asylums.

The following resolution was unanimously passed at the meeting in London:—

> Whereas there is widespread discontent on account of the disabilities under which assistant medical officers labour, Resolved, that this meeting elect representatives to meet representatives from other parts of the country to set up an association of assistant medical officers.

Similar resolutions were passed at the meetings at Birmingham, Manchester, and Bristol.

I am, Sir, yours faithfully,

F. J. STUART,
Provisional Secretary, Association of A.M.O.

Berry Wood, Northampton, Dec. 8th, 1913.

THE RELATION BETWEEN HERPES ZOSTER AND CHICKEN-POX.

To the Editor of THE LANCET.

SIR,—Early in November of this year a patient in the convalescent scarlet fever ward at East Pilton Hospital developed a profuse eruption of herpes zoster, the distribution being that of the lower dorsal and upper lumbar nerve roots of the right side. This patient was not isolated, but was nursed in the main ward. Exactly a fortnight after the eruption was noticed chicken-pox broke out in the ward, three patients being affected, and all three had been in the hospital considerably longer than three weeks, one being 40 days in and the other two 30 and 32 days respectively. All the cases were promptly isolated, and no further attacks occurred. The cause of the outbreak could not therefore be ascribed to the usual source—i e, a child incubating chicken pox—and the only source, apart from the patient with the herpes, that I could discover was that the infection had been introduced on the clothes sent in to the convalescent patients from outside

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[1] THE LANCET, Nov. 1st, 1902, p. 1190.

Of course, it is very difficult to find out the exact source of such an outbreak, but the association between herpes zoster and the cases of chicken pox which has recently been discussed struck me as being exceedingly interesting

I am, Sir, yours faithfully,
G RICHARDSON, M D, D P H,
Assistant County Medical Officer of Health Carlisle
Dec 6th 1913

THE ANATOMY OF THE PELVIS

To the Editor of THE LANCET

SIR,—May I correct a mistake in the remarks attributed to me in the paper by Dr Batty Shaw and Mr R Higham Cooper on a Change Occurring in the Pelvis in a Case of Prepuberal Atrophy of the Testicles, which appeared in your issue of Dec 6th? I am represented as saying that "the spine of the negro, unlike the European man's, shows a curvature with the convexity backwards" This is of course incorrect, the curve of the dorsal region of the spine in the two races being identical, although in negroes a smaller anterior convexity of the lumbar portion of the vertebral column has been stated to be present

The point that I tried to make clear when the paper was read is that pelves of a similar type to that exhibited by Dr Batty Shaw's interesting case
are comm d are in
consequer In such
cases the back in
the pelvis than usual, thus greatly increasing the antero posterior diameter and tending to make the lumbo sacral angle less prominent The negro pelvis which I showed exhibited this condition in an extreme degree, but without kyphosis, so far as I can ascertain from an examination of the spine But its general resemblance to the pelvis in Dr Batty Shaw's case, and the fact that it belonged to a negro of over 6 ft in height, renders the comparison of some interest

I am, Sir, yours faithfully,
London Dec 8th 1913 DOUGLAS E DERRY

IN recognition of her services to the hospital as Lady Mayoress Miss Crosby, daughter of Alderman Sir Thomas Boor Crosby, has been appointed a governor of St Bartholomew's Hospital

ASSOCIATION OF REGISTERED MEDICAL WOMEN —At a meeting of this association held on Dec 2nd, the following resolution was carried — 'That the Association of Registered Medical Women—while recognising that the proposed scheme for a Women's Medical Service in India in many respects offers improved conditions for the work of women under the Dufferin Fund—desires strongly to protest against the scale of remuneration offered, which is entirely inadequate for the work which the medical women are asked to undertake and also the subjection of medical women to a lay committee, for the constitution of
which no g
punishment
The Associat
success of the scheme, since no first-rate medical women will consent to work under such conditions" At the same meeting a resolution was passed condemning artificial feeding as performed in prisons upon sane and resisting persons by lay direction

THE NATIONAL INSURANCE ACT

THE REPRESENTATIVE BODY OF THE BRITISH MEDICAL ASSOCIATION AND THE INSURANCE ACT

AT the recent Special Representative Meeting of the British Medical Association held in London under the chairmanship of Mr T J Verrall, the following recommendations were moved by the chairman of Council, Dr J A Macdonald, and adopted, the words following "10*s* 6*d*" in the first being the result of two amendments —

That where any medical practitioner not devoting his or her whole time to the work is called upon by a lay body to express an opinion as to the capacity or incapacity of an insured person the lowest fee such practitioner should accept should be 10*s* 6*d* exclusive of expenses after the practitioner in attendance has been given an opportunity of consultation in the case

That the medical referees under the National Insurance Act should be appointed by the Commissioners and removable only by them, that they should be whole time officers and practitioners of not less than ten years standing, that the appointments should be pensionable and that the commencing salary should be not less than £750 per annum

That such portion of the unallocated funds in the hands of Insurance Committees as were attributable to insured persons who have been attended individually as private patients at their own expense should be distributed as a set off to the medical bills of these patients

That in order to check the extension of medical aid institutions and to assist the profession in combating them where established the Association endeavour to enlist the support of the staffs of voluntary hospitals not only in refusing professional recognition to the medical officers of these institutions, but also by refusing treatment to patients sent by them to hospitals except in cases of grave urgency

A rider excluding the last resolution from application to institutions whose medical officers have retained their posts with the consent of the Council of the Association was approved by the meeting

A motion deprecating the appointment of a special committee to promote the interests of non panel practitioners was moved and lost, and a resolution was moved by Dr B G Morison and carried —

That the Representative Body take such instant and vigorous action as shall induce the Government and the Commissioners to grant to insured persons and the medical profession free choice of doctors, whether the doctor is on or off the panel

THE TREATMENT OF TUBERCULOSIS

In a recent circular the Local Government Board has asked for particulars of actual expenditure incurred by councils upon sanatorium schemes during the half year ending Sept 13th, 1913, and of estimated expenditure for the following six months, and for financial estimates specified in regard to the financial year 1914–15 The Board appends observations as to the organisation of schemes for institutional treatment of tuberculosis and upon the procedure to be adopted in developing them A memorandum follows describing the arrangements proposed by the Board in regard to the distribution of the maintenance grant towards the cost of schemes for institutional treatment A draft agreement is included which is to be entered into between county councils or corporations and Insurance Committees for the institutional treatment of tuberculosis, prescribing the conditions under which the former are to appoint tuberculosis officers and to provide dispensaries, shelters, and accommodation in sanatoriums and hospitals

CLAUSE 2 (ii.) OF THE NEW DRAFT AGREEMENT.

The *British Medical Journal* has announced that the Insurance Commissioners do not accept as accurate the report published by it on Dec. 6th of an interview between representatives of the Kent and Surrey Insurance Committees and Mr. S. P. Vivian, representing the Commissioners. The assumption, the Commissioners say, must not be made that if practitioners sign an agreement containing Clause 2 (ii.) they will be permitted to enter into independent agreements with third persons. The Commissioners appear now to be unwilling to recede from the strictest literal interpretation of Clause 2 (ii.). In a letter to the Kent Insurance Committee, dated Dec. 1st, the Commissioners did, however, indicate the broader view, for in that document they state that Clause 2 (ii.) does not apply to any matters outside the range of the agreement. It may fairly be argued that the concessions which the representatives of the Kent and Surrey Insurance Committees believed themselves to have obtained from Mr. Vivian in an interview on Nov. 29th had to do with matters outside the range of the agreement, that range having been first settled, so that the patients' rights were not obscured. This, we believe, was the view of Mr. H. W. Clothier, vice-chairman of the Kent Insurance Committee, who at the interview with Mr. Vivian submitted the various points for the two committees.

We referred last week to the existence of doubt as to what extent, under the Insurance Acts as they stand, the Commissioners can lawfully sanction extra payments by panel patients, and it seems fairly clear that some authoritative legal interpretation is here required.

THE ALLOCATION OF SURPLUS FUNDS IN LONDON.

The report of the Special Committee to decide on allocation of the surplus of the Panel Fund in London recommended that the London Insurance Committee should proceed to distribute among the medical practitioners on the panel the whole amount available, after deducting the sums applicable under the Regulations towards the cost of drugs and appliances. The report suggested also that the notice of this intention should be advertised, and that distribution should be postponed until Dec. 31st; and also that the Insurance Commissioners should be informed that the difficult situation had arisen owing to the framing of the Regulations by the National Insurance Commission. A Regulation which the Insurance Commissioners intend to adopt has now been submitted to the London Insurance Committee, which specifically states that the amounts in the Panel Fund available for the purpose of the payment to practitioners on the panel include, and shall be deemed always to have included, all moneys carried to the credit of the Panel Fund after the deduction of such sums as may be necessary for the purposes of Article 22 and Article 50 of the principal Regulations. There is no doubt that the London Insurance Committee, having Mr. Danckwerts's opinion in their minds,[1] do not feel safe in proceeding to distribution, although the chairman, Mr. J. A. Dawes, M.P., has received from the Chancellor of the Exchequer a clear recommendation to do so without fear. If litigation should take place we trust that it will be of a friendly and concerted character.

FORM MED. 16 (REVISED) AND FORM MED. 17 (REVISED).

Under the above reference headings the Insurance Commissioners have issued draft agreements to be entered into between persons undertaking to supply drugs and appliances and Insurance Committees and between persons undertaking to supply drugs (other than scheduled poisons and medicines which require to be dispensed) and appliances and Insurance Committees.

BIRKENHEAD INSURANCE COMMITTEE: AN IMPORTANT QUESTION.

A subject of considerable importance to medical practitioners on panels and to their patients was discussed at a recent meeting of the Birkenhead Insurance Committee, when Dr. J. Grimshaw moved "that the question of the general relation between medical referee, insured person, and panel practitioner be referred to the Medical Service Subcommittee for consideration and report." This was agreed to by the committee, with the substitution of Medical Benefit Subcommittee for Medical Service Subcommittee. The incident of practice under the Insurance Acts which led to Dr. Grimshaw taking this step was described by him in detail, and his account of it may be summarised as follows. He had been consulted by James Thompson, aged 62, a *pipe-fitter*, in August, and had certified him for sickness benefit as being unfit for work. A month later Thompson had a letter from his society asking him to meet their medical referee; this he showed to Dr. Grimshaw. Three days later Thompson showed Dr. Grimshaw his sick benefit sheet with Dr. Grimshaw's signature cancelled and the word "Fit" written on it, with the initials of the medical referee. Dr. Grimshaw wrote to the society protesting strongly against his patient being examined and his certificate cancelled without any consultation with, or instruction to, him. This was formally acknowledged, and Dr. Grimshaw took his patient to the physician of the Liverpool Stanley Hospital, who confirmed his opinion that the man was totally unfit for work, "suffering from a serious affection of the heart and blood-vessels, besides being the subject of chronic and progressive disease of the kidneys." He next sent the patient for examination to the Liverpool Royal Infirmary, where Dr. John Hay diagnosed a large aneurysm of the transverse arch with associated aortic regurgitation, and declared him quite unfit for work, either light or heavy, this being confirmed by a skiagram showing a large aneurysm taken by Mr. C. Thurstan Holland. Correspondence with the Insurance Commissioners brought a reply from them intimating that the rules of a society constitute conditions of membership, and that where the patient is examined by the society's medical referee "the opinion of any doctor so appointed, and that of the doctor on the panel treating the member, both *constitute* evidence to which Approved Societies may properly have regard, in determining whether or not a member is incapacitated. The question, however, as to whether such incapacity exists is in the first instance for the society to decide." Attention was then called to the provisions for appeal to the tribunal appointed under the rules of the society for the settlement of disputes, and for ultimate appeal to the Commissioners. The society refused to reply in writing to Dr. Grimshaw's communications or to pay the sickness benefit, and a strongly expressed letter of protest against the situation thus produced written to the Insurance Commissioners by Dr. Grimshaw was laid before the Birkenhead Insurance Committee. He further informed them that he had secured the "poor man's lawyer" of the Charity Organisation Society to further the necessary appeal, and had advanced the 5s. necessary before the appeal could be proceeded with, a sum which his patient would otherwise have been unable to produce. In the circumstances the Insurance Committee decided that it could not interfere, but the motion recorded above was passed by it. Comment upon the ethical aspects of the case and upon the extent to which the interests of the patient are involved may be postponed. We quote, however, a resolution of the Dundee Division of the British Medical Association *passed on Nov. 18th (which appears to anticipate* such occurrences taking place): "That practitioners acting as medical referees under the National Insurance Act shall observe the following rules: (*a*) The *referee shall communicate with the* practitioner in attendance to enable him, if he so desires, to be present at the examination of the insured person by the referee." Since then, as appears in another paragraph, the Representative Body of the Association has adopted much the same view.

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[1] THE LANCET, Nov. 22nd, 1913, p. 1507.

SWANSEA HOSPITAL AND INSURED PATIENTS.

At a recent meeting of the Swansea Hospital board of management a resolution was carried to the effect that a subcommittee should be appointed to inquire into the admission of insured (to which by an amendment was added "and uninsured") persons to the hospital. Allegations were made that medical men on the panel encouraged their patients to apply to the hospital, particularly for in-treatment, when they could and should be taken care of at home. A medical member of the board (Dr. F. Knight) commented on a general impression which, he said, was prevalent, that every accident, however trivial, should be treated at the hospital, and urged that every accident case should go first to a panel practitioner, if the patient was insured.

BRIGHTON INSURANCE COMMITTEE.

At a meeting of this committee the following resolution of the Sanatorium Benefit Subcommittee was reported, dealing with a topic of importance to other localities besides Brighton:—

> That it be urgently represented to the Insurance Commissioners that a number of insured persons remove into Brighton from time to time on account of condition of health with the intention of applying for sanatorium benefit, and that in the committee's opinion it is necessary that steps should be taken as early as possible to so adjust this difficulty as *to prevent an undue proportion of the cost of* the treatment of tuberculosis falling upon Insurance Committees and town councils of health resorts.

A recommendation of the Medical Service Subcommittee was considered *deprecating the retention* on the pharmaceutical panel of a firm alleged not to be qualified to carry on business under the Pharmacy Acts, 1868–1908 owing to lack of qualified superintendence and management. Consideration was also given to a case reported upon by the same subcommittee in which a medical man was stated to have given a certificate of incapacity to an insured person not based upon personal examination at the time of the giving of the certificate, which had conduced to the payment of benefit to the insured person to which he was not entitled. Reference was made to the form of certificate in the new Regulations as likely to prevent the recurrence of incidents of this kind. The report asked that the medical man, who had given an undertaking not to offend again, should be censured, and this was done.

BRISTOL INSURANCE COMMITTEE.

At a recent meeting of the Bristol Insurance Committee interesting figures were given with regard to the cases submitted to the medical referee (Dr. B. Rogers) appointed nine months ago to deal with cases referred to him by medical men on the panel and by Approved Societies. In the last month the figures had been 50 cases referred, 17 pronounced unfit for work, and 33 either pronounced fit or not examined through their not attending. In the nine months' total 593 (193 from medical men and 400 from Societies), 213 were unfit for work and 380 fit or did not attend. This proportion and a total of 380 out of 120,000 insured did not, it was pointed out, support a charge that general malingering was depleting the funds of the societies. 462 applications for sanatorium treatment had been dealt with since July, 55 now receiving sanatorium treatment, 126 dispensary treatment, 57 domiciliary treatment, waiting for beds, 4. The work was "*going on in an* extremely satisfactory way." It was resolved to circularise deposit contributors urging them to join societies.

THE LATE DR. HORACE DIMOCK.

The Home Secretary has decided that it is not possible to hold an inquiry into the circumstances preceding the suicide of the late Dr. Horace Dimock. This is possibly a legal but none the less an unsatisfactory decision.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following medical and surgical degrees have been conferred.—

M.D.—J. W. Linnell, St. John's.
M.B., B.C.—H. W. Barnes, Jesus; and V. P. Soothill and W. A. Stokes, Emmanuel.
M.B.—G. M. Parker, Emmanuel.

DONATIONS AND BEQUESTS.—The late Rev. R. H. Jackson, of Clifton, has bequeathed £500 each to the Bristol Royal Infirmary and the Bristol Children's Hospital. —An anonymous gift of £600 has been sent to the *Royal* Waterloo Hospital for Children and Women.—The West End Hospital for Diseases of the Nervous System has received a donation of £300 from Miss Goudy, and a cot will be named in respect of this donation.

METROPOLITAN ASYLUMS BOARD: INSTRUCTION IN HOSPITAL ADMINISTRATION.—A three months' course of lectures and demonstrations in hospital administration for the Diploma in Public Health will be given at the North-Western Hospital, Hampstead, N.W., by Dr. J. MacCombie, medical superintendent, on Mondays and Thursdays at 5 P.M., beginning Jan. 5th; and at the Grove Hospital, Tooting Graveney, S.W., by Dr. J. E. Beggs, medical superintendent, on Mondays and Thursdays at 5 P.M., beginning Jan. 8th. The fee for the course is £3 3s, which must be paid in advance to the Clerk to the Metropolitan Asylums Board, Embankment, E.C.

THE joint annual general meeting of the executive councils of the National League for Physical
…ion House Council
the Jerusalem
ay, Dec. 12th, at
y Bishop Boyd

Carpenter, and the speakers will include Mr. J. A. Pease, M.P., Bishop Ryle (Dean of Westminster), Sir Henry Craik, M.P., and Sir James Crichton-Browne.

Dr. F. W. S. Stone has been elected chairman of the public health committee of the Dover town council.

LITERARY INTELLIGENCE.—Mr. H. K. Lewis announces for early publication a new work by Sir Thomas Oliver, entitled "Industrial Lead Poisoning," being an elaboration of a lecture recently delivered at the Royal Institute of Public Health; a reprint of the collection of essays and addresses by Sir William Osler, issued under the title of "Aequanimitas"; and new editions of Dr. Lewis Jones's book on "Ionic Medication," Dr. Dudley Buxton's handbook on "Anæsthetics," and Mr. Albert Taylor's "Sanitary Inspector's Handbook."

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM.—The Savill prize and medal has been awarded to Dr. Thomas Knowles Boney for his thesis on "Myasthenia Gravis." The prize and medal have been founded in memory of the late Dr. Thomas Savill, physician to the hospital. Candidates are required to attend at least 25 demonstrations in the out-patients' department, to pass an examination, and to submit a thesis on a given subject. The next examination will probably be held in July, 1914. A wish has been expressed by the memorial committee that the Savill lecture should be delivered by Dr. Harry Campbell, on a date to be announced later.

THE WORSHIPFUL COMPANY OF PLUMBERS: DINNER TO THE LORD MAYOR OF LONDON.—A dinner was given by the Worshipful Company of Plumbers to the Lord Mayor and Sheriffs of the City of London, representing the Corporation, and to a large group of representative guests on Dec. 5th at the Hall of the Armourers and Brasiers Company. The guests were received by the Master, Mr. W. D. Caröe, and the Wardens, Dr. F. J. Waldo and Mr. Edmond Knight. A good many speeches were made of a distinctly interesting nature. After the loyal toasts Sir Shirley Murphy proposed the health of the Lord Mayor (Sir Vansittart Bowater) in his character as guardian of the public health of the City. After picturing the horrors of the cholera outbreak in London, now 65 years ago, he showed how the appointment of that great man Sir John Simon to be medical officer of the City proved the inauguration in London of the reign of public health. He quoted from Sir John Simon's famous reports as Medical Officer to the Privy Council prior to his appointment as Medical Officer to the Local Government Board, and he congratulated the civic authorities of London on having done all in their power to advance the public health The Lord Mayor, in his reply, included the proposal of the next toast, which bore the inclusive title of "The Public Health." The Master, speaking to the toast, referred to the antiquity of the Plumbers' Company, which had received its charter from King Edward III. in an interval between wars of conquest with France and Scotland, and showed what the Worshipful Company of Plumbers had done to maintain high sanitary standards. He begged all the assembly present to assist the efforts of the Company to raise and maintain the present high standard of sanitary plumbing which could only be done by a proper system of registration, and such a system could be effectively assisted by the general adoption of a custom of marking or signing constructive work. If the work of registered plumbers were identified by some signature of operative and employer the separation between registered, and therefore qualified, work and unqualified work would be marked. He closed by thanking the Master of the Armourers and Brasiers Company warmly for allowing the use of their hall on the occasion. Dr. G. Newton Pitt, the Master of the Armourers and Brasiers Company, speaking also to the toast of "The Public Health," pointed out that the administration which maintains good health must be, to a great extent, dependent upon the conditions of service of the medical officer of health, in whose hands the sanitary well-being of the country lies. He urged the necessity of the creation of whole-time men for the public health service, and of the giving to them of secured tenure of office, which would enable them to discharge their duties without fear of opposition from the members of any local authority. The toast of "The Guests" was happily given by Sir Vezey Strong, the replies being entrusted to Mr. John Slater, past Vice-President of the Royal Institute of British Architects; and Sir Arthur Whitelegge, Chief Inspector of Factories and Workshops to the Home Office. Among other guests present at a very interesting dinner were Dr. Arthur Newsholme, medical officer to the Local Government Board; Dr. Herbert Williams, medical officer of health to the Port of London; Mr. Sydney Perks, City surveyor; Dr. W. J. Howarth, medical officer of health of the City of London; Mr. W. Curtis Green, President of the Architectural Association of London; and Dr. S. Squire Sprigge, editor of THE LANCET.

SOCIETY OF MEDICAL OFFICERS OF HEALTH: THE SCHOOL MEDICAL SERVICE GROUP.—A meeting of the School Medical Service Group was held on Saturday last, Dec. 6th, at the Royal Sanitary Institute, Dr. Robert Hughes in the chair, and Mr. Herbert Jones, the honorary secretary of the Society of Medical Officers of Health, being also present. Dr. Armly Ashkenny, the honorary secretary of the Group, read correspondence from school medical officers and assistant school medical officers serving in 30 counties and boroughs regretting inability to attend the meeting, but expressing hearty support of the main object of the movement—namely, to improve the status and remuneration of the officers of the School Medical Service. A resolution was passed—

> That the honorary secretary of the group should communicate with officers of the School Medical Service who are willing to promote the objects of the group, and request their assistance in the formation of sub-groups corresponding to the branches of the Society of Medical Officers of Health, with the object of holding meetings locally to discuss matters affecting their status and remuneration and to promote social and scientific discusions of interest to the service.

Dr. Ashkenny will be glad if assistant school medical officers and assistant medical officers of health performing school work, both ladies and gentlemen, would communicate with him at 38, George-road, Edgbaston, Birmingham, in reference to organising the service in the provinces. The meetings of the group will be held on Saturday afternoons, and the next meeting will be held in London on Saturday, Jan. 3rd, 1914.

BOOKS, ETC., RECEIVED.

ASH AND CO., LIMITED, 2, Exchange Parade, Southwark-street, and Henry-street, Tooley-street, London, S.E.

A Handbook of Sanitary Law for the Use of Candidates for Public Health Qualifications. By B. Burnett Ham, M.D., M.R.C.S., D.P.H. Camb. Seventh edition. Price 3*s.* 6*d.* net.

BELL, G., AND SONS, LIMITED, London.

War and Women. From Experience in the Balkans and Elsewhere. By Mrs. St. Clair Stobart, Founder of the Women's Convoy Corps. With a Preface by Viscount Esher, G.C.B. Price 3*s.* 6*d.* net.

CHURCHILL, J. AND A., London.

A Course of Lectures on Medicine to Nurses. By Herbert E. Cuff, M.D., F.R.C.S., Medical Officer for General Purposes to the Metropolitan Asylums Board. Sixth edition. Price 5*s.* 6*d.* net.

A Short Practice of Midwifery for Nurses. Embodying the Treatment Adopted in the Rotunda Hospital, Dublin. By Henry Jellett, B.A., M.D. Dublin University, F.R.C.P.I. Fourth edition, revised. Fourteenth thousand. Price 7*s.* 6*d.* net.

FISCHER, GUSTAV, Jena.

Pathologische Anatomie Ein Lehrbuch fur Studierend, und Aerzte. Bearbeitet von L. Aschoff, M. Askanazy, H. Beitzke, C. Benda, M Borst, A. Dietrich, P. Ernst, E. v. Gierke, L. Jores, R. Kretz, O. Lubarsch. O. Naegeli, R. Rössle, M. B. Schmidt, H. Schridde, E. Schwalbe, M. Simmonds, und C. Sternberg. Herausgegeben von L. Aschoff, Freiburg i.Br. Dritte Auflage. Erster Band: Allgemeine Aetiologie; allgemeine pathologische Anatomie. Zweiter Band: Spezielle pathologische Anatomie. Price M.31.50.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Oxford Medical Publications. The Practitioner's Practical Prescriber and Epitome of Symptomatic Treatment. By D. M. Macdonald, M.D., Medical Officer of Health, Leven, Fife. Price 5*s.* net.

SOTHERAN, HENRY, AND CO., 43, Piccadilly, and 140, Strand, London, W.C.

Colloquies on the Simples and Drugs of India. By Garcia da Orta. New edition (Lisbon, 1895) edited and annotated by the Conde de Ficalho. Translated, with an Introduction and Index, by Sir Clements Markham, K.C.B., F.R.S. Price £2 2*s.* net.

STEPNEY PRESS, THE, 43, White Horse-lane, London, E.

Constructive Conservatism. By Harry Roberts. With an Introduction by L. S. Amery, M.P. Price 1*s.* net.

UNIVERISTY PRESS, Cambridge.

A National System of Education. By John Howard Whitehouse, M.P. Price 2*s.* 6*d.* net.

Appointments.

Succ[illegible] [illegible] lic Institutions, [illegible] is column, are [illegible] ted to the Sub- [illegible] orning of each [illegible]

BLANDFORD, J. J. GUTHRIE, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Superintendent of the Whalley Asylum, Lancashire.

CAR[illegible] has been re- [illegible] for Diseases [illegible]

FAI[illegible] en appointed [illegible] ildren, Great [illegible]

[illegible] appointed [illegible]

[illegible] has been [illegible] and Mid- [illegible]

[illegible] ed House [illegible] e Nervous System.

MAI[illegible] has been appointed [illegible]

RIV[illegible]

ROI[illegible]

WA[illegible] tional Member of the Highlands and Islands Medical Service Board.

ERRATA.—GREAT NORTHERN CENTRAL HOSPITAL.—We are asked to correct the information regarding certain appointments at this [illegible] of [illegible] use [illegible] use [illegible] use [illegible]

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

[illegible] laundry.

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with lodging, board, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham road, S.W.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, &c.

BIRMINGHAM CITY FEVER HOSPITAL, Little Bromwich.—Assistant Medical Officer. Salary £150 per annum, with board and residence.

[illegible] Assistant Resident Medical [illegible] rd, residence, &c.

[illegible] House Surgeons for six [illegible] with board, lodging, and washing.

[illegible] e Sur- [illegible] Bos- [illegible] £100 [illegible] laundry.

[illegible] NTY HOSPITAL.—Assistant House [illegible] £80 per annum, with apartments, [illegible]

[illegible] S.W.—Medical Registrar. Salary £100 per annum.

CA[illegible]

CA[illegible] Physicians.

CA[illegible]

C[illegible]

[illegible] Medical Officer, un- [illegible] board, lodging, and washing.

CHESHIRE ED[illegible] School Medical O[illegible]

COLCHESTER, [illegible] House Surgeon. [illegible] ng, and residence.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—House Physician. Salary £110 per annum, with residence, board, laundry, and attendance.

CROYDON GENERAL HOSPITAL.—Additional Member of Honorary Medical Staff.

DE[illegible] urgeon and [illegible] apartments, [illegible] nths. Salary [illegible]

DI[illegible] Salary about £110 per annum.

[illegible] laundry.

G[illegible] SANATORIUM AND [illegible] icer. Salary £150 [illegible] and washing.

HAMPSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £300 per annum.

HASTINGS, EAST SUSSEX HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing. Also Assistant House Surgeon. Salary at rate of £80 per annum, with residence, [illegible]

[illegible] lent Medical Officer for [illegible] m.

[illegible] *urgeon for six months.* [illegible] and lodging.

[illegible] His Majesty's Indian Medical Service.

[illegible] RAL HOSPITAL, Earl's Court, S.W.— [illegible] alary at rate of £50 per annum, with [illegible]

[illegible] NERAL HOSPITAL.—Resident Medical [illegible] £100 per annum, with board, residence, &c.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH, 38, New Cavendish-street, W.—Fifth Assistant Pathologist. Salary £170 per annum.

LANCASTER, COUNTY ASYLUM.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, washing, and attendance.

LEEDS GENERAL INFIRMARY.—House Physician for six months. Also House Surgeon. Each with board, residence, and laundry.

LIVERPOOL UNIVERSITY, FACULTY OF MEDICINE.—Lectureship in [illegible]

[illegible] washing, &c.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House [illegible] Salary £80 per annum, with board, lodging, [illegible]

[illegible] with board and residence.

NEW[illegible] W.—Senior Clinical [illegible]

NOR[illegible] —House Surgeon, [illegible] board, lodging, and washing.

NOTTINGHAM CITY EDUCATION COMMITTEE.—Third Medical Inspector. Salary £300 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £220 per annum, with apartments, attendance, light, and fuel.

OXFORD COUNTY ASYLUM, Littlemore, near Oxford.—Assistant Medical Officer. Salary £200 per annum, with apartments, board, and washing.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £90 per annum, with board, [illegible]

[illegible] and Assistant [illegible] Medical Officer, [illegible] apartments, and washing.

PRINCE OF WALES'S GENERAL [illegible] Medical and Surgical Registr[illegible]

ROYAL EYE HOSPITAL, South[illegible] Surgeons for six months. [illegible] tively, with board and reside[illegible]

ROYAL LONDON OPHTHALMIC HOSPITAL.—Third House Surgeon. Salary at rate of £50 per annum, with board and residence.

ST. MARY'S HOSPITAL, Paddington, W.—Resident Assistant Anæsthetist for six months. Salary at rate of £100 per annum, with board and residence.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer for six months. Salary at rate of £70 per annum, with residence, board, and laundry.

SALFORD UNION INFIRMARY.—Senior Assistant Medical Officer, unmarried. Salary £130 per annum, with apartments, attendance, and rations.

SHEFFIELD, CHILDREN'S HOSPITAL, Western Bank.—House Surgeon. Salary £100 per annum, with board and residence.

SHOREDITCH INFIRMARY, Hoxton-street, N.—Junior Assistant Medical Officer for six months. Salary £150 per annum, with board, apartments, and washing.

SHROPSHIRE EDUCATION COMMITTEE.—Medical Inspector. Salary £250 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Third House Surgeon. Salary £125 per annum, with board, washing, and attendance.

SUNDERLAND UNION WORKHOUSE AND COTTAGE HOMES.—Resident Assistant Medical Officer, unmarried. Salary £200 per annum, with rations, apartments, and washing.

TAUNTON, SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, attendance, &c.

WAKEFIELD, WEST RIDING ASYLUM.—Assistant Medical Officer. Salary £200 per annum, with apartments, board, washing, and attendance.

WALTHAMSTOW URBAN DISTRICT COUNCIL ISOLATION HOSPITAL, Chingford.—Resident Medical Officer. Salary £150 per annum, with rooms and board.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with rations, apartments, and washing. Also Third House Surgeon (female) Salary £100 per annum, with rations, apartments, and washing.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

WINDSOR, KING EDWARD VII. HOSPITAL FOR WINDSOR, ETON, AND DISTRICT.—Assistant House Surgeon. Salary £76 per annum, with residence, board, laundry, and attendance.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing. Also Clinical Assistant and Dispenser. Salary £80 per annum, with board, residence, and washing.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Blairgowrie, in the county of Perth; at Moville, in the county of Donegal; and at Newbury, in the county of Berks.

THE Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for Ampthill, Brackley, Buckingham, Kettering, Northampton, and Wellingborough County Courts. Applications should be addressed to the Private Secretary, Home Office, S.W., and should reach him not later than Dec. 31st.

** The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of THE LANCET.

Births, Marriages, and Deaths.

BIRTHS.

BARENDT.—On Dec. 4th, at Rodney-street, Liverpool, W., the wife of Frank H. Barendt, M.D. Lond., F.R.C.S. Eng., of a son.

DAVIDSON.—On Dec. 4th, at Western Parade, Southsea, the wife of Maurice Davidson, M.D., of a daughter.

KENNARD.—On Dec. 4th, at Bedford-square, W.C., the wife of Dudley Kennard, F.R.C.S., of a daughter (stillborn).

MARRIAGES.

FAWCITT—HIRST.—On Dec. 3rd, at St. John's Church, Dewsbury, by the Rev. Canon Monnington, Vicar of Broughton-in-Furness, assisted by the Rev. F. Sangster, of St. John's Church, Dewsbury, Dr. Richard Fawcitt, only son of the late Dr. J. W. Fawcitt, of Broughton-in-Furness, to Jessie Boyce, elder daughter of Mr. and Mrs. J. Hirst, of Ravensleigh, Dewsbury.

RAY—HEAVEN.—On Dec. 9th, at St. Mark's, North Audley-street, London, W., by the Rev. C. L Arnold, cousin of the bride, assisted by the Rev. H. P. Cronshaw, vicar of the parish, Matthew Burrow Ray, M.D., of Harrogate, elder son of Richard Ray, of 12, Park-avenue, Harrogate, to Edith Charlotte Frances Heaven, widow of Captain Robert E. Heaven, elder daughter of the late Lord Henry Cholmondeley, and granddaughter of the third Marquess of Cholmondeley

DEATHS.

JONES.—On Dec. 7th, at Drakefield-road, Balham, Sydney Jones, M.B., F.R.C.S , in his 83rd year.

LANDON.—On Dec. 7th, at 169, High-street, Homerton, N.E., Edward Landon, M.R.C.S. Eng., L.R.C.P. Edin., late Captain, R.A M.C., aged 58. Interment at Abney Park Cemetery, Saturday, Dec. 13th. Cortège leaves residence at 2.30 P.M. Australian papers please copy.

PRESTON.—On Dec. 2nd, Theodore Julian Preston, Deputy Inspector-General R N., of St. John's Park, Blackheath, S.E., and Norfolk House, Mundesley, Norfolk, aged 66.

WALKER.—On Dec. 4th, at Peckham Rye, S.E., Josiah William Walker, M.D., in his 81st year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A CASE FOR DIAGNOSIS AND TREATMENT.

X Y Z writes: Can any of your readers help me with the treatment of an obstinate case of "middle pain"? The pain is obviously very acute, occurs exactly midway between successive menstrual periods and lasts for one or two days. It dates from a miscarriage five years ago and became gradually more severe until two years ago. I have tried the usual drugs and local treatment for uterine colic with unsatisfactory results. Two specialists have been consulted, and on the advice of one of them dilatation and curettage were performed 18 months ago. This treatment was followed by pregnancy which only lasted for seven weeks, the miscarriage being associated with very acute pain, resembling that of a ruptured ectopic gestation. Since then the middle pain has returned and is as severe as ever. The patient is 38 years old and has two children, 10 and 7 years old. There are no physical signs apart from a slight catarrh of the cervical canal. The menstrual periods are regular and practically painless. The patient enjoys perfect health between the "middle pain" attacks, and there are never any neurasthenic symptoms.

** We refer to the matter in an annotation this week.—ED. L.

ASTROLOGY IN MEDICINE.

To the Editor of THE LANCET.

SIR,—I trust that with your well-known love of fair play you will kindly permit me to make a few remarks on this subject and to ask Dr. Mercier a few questions of public interest.

With all respect for the learned doctor, and with due acknowledgment of his candid admission that astrology was believed in and seriously studied "by the rarest intellects of *their time, some of them,* like Roger Bacon and Albertus Magnus, the rarest intellects of all time," I wish to ask: Does Dr. Mercier think that such rarest intellects were incapable of distinguishing truth from error, and could have accepted the superstitions associated in their day with astrology? Surely not. They accepted *astrologia sana* as Bacon (Lord Verulam) accepted it, as a part of physics and discarded superstition. One might as reasonably proclaim medicine nowadays to be "tomfoolery," on the ground of the superstitions connected with it formerly, as Dr. Mercier condemns astrology and pronounces it as "dead"—officially. Dr. Mercier's only argument against astrology *on scientific grounds* is the worn-out and utterly unfounded assertion that it was overthrown by Copernicus!

I cannot understand how Dr. Mercier could have forgotten to admit that Py [illegible] the so-called discovery of Copernicus, [illegible] prevailing belief in astrology. That, also, Anaximander [illegible] although he taught that the fixed stars were cent[illegible] regarded the planets as unconnecte[illegible] moreover, Democritus accepted it, although he explained the whiteness of the Milky Way which Herschel discovered by means of his powerful telescopes, which separate that immense nebula into its component stars, and maintained that more planets would be discovered in future ages.

Such facts show the puerility of the argument of modern astronomers, unwarily repeated by Dr. Mercier, that Copernicus overthrew astrology. Kepler was convinced, he says, "from an unfailing experience" that the celestial bodies—the major planets—do affect this earth, its atmosphere, and inhabitants. It is disappointing to find in Dr. Mercier's second lecture no facts in evidence of the falsity of astrology advanced. I may mention that I have, during more than half a century's close study of this subject, found many reasons for believing that there is much truth in *astrologia sana*. In my text-book ("The Text-book of Astrology," second edition. By A. J. Pearce. London: Simpkin, Marshall, Hamilton, Kent, and Co.) I have presented scores of horoscopes of children born with some mental or physical defect, or so delicate that they died early, their times of birth having been observed by medical men; also many instances of the coincidence of great epidemics with the maximum of planetary influence, &c. My experience leads me to respect the belief and to cherish the memory of the great men of ancient and mediæval times who found and published, without fear, many proofs, as they rationally believed, of that planetary influence which vibrates throughout the apparent vacancy of space, and which is no more difficult to comprehend, which is no more mystical, than is gravitation or attraction, or the pointing of the needle to the north. All the operations of Nature are mysterious until they can be understood.

Dr. Mercier said: "Surely we had every right to despise those who attributed all chronic diseases to the Sun, and acute diseases to the Moon." This is an error. Astrologers observed that the crises in chronic diseases were ruled and marked out by the Sun, and the crises of acute diseases by the Moon. Chronic diseases are ruled by Saturn, and were so named from *Kronos*, one of the ancient names of the planet, derived from the Hebrew word *Kron*, a horn—an *emblem of power in the East*.

Another source of error has crept in in the following quotation: "If the lord of the ascendant be propitious and free from adverse influences of the other planets, and Luna likewise, the illness will end favourably. ...... But if Luna, or the lord of the ascendant should be combust or *retrograde*," &c.

This reads as if the *Moon* is sometimes retrograde, a manifest error, as she is never retrograde like the planets [illegible]

[illegible] March 24th, 1345. Neptune was also in the same sign at that time—a planet unknown then. Such a doryphory of great planets in *Aquarius*, a sign which is found to relate to epidemic diseases, certainly foreshadowed the outbreak of a pandemic; and if Dr. Mercier will compare the periods of great conjunctions in Aquarius he will find that great [illegible] g attention [illegible] be as fair as [illegible] in fact, he [illegible] one of his [illegible] Mercier in any learned society or private assembly.

I am, Sir, yours faithfully,
Dec. 3rd, 1913. ALFRED J. PEARCE.

*** Mr. Pearce makes an appeal for publication which we have not been able to resist, but the view that the operations of nature are mysterious until they are understood cannot be advanced as a complete defence of mysticism.—ED. L.

MEDICAL PRACTICE IN URUGUAY.

Malaga.—In 1883 sanitary regulations were enacted to control the practice of medicine in this Republic. The Board of [illegible] would be able to give [illegible]

THE PSYCHOLOGY OF "DAMN."

To the Editor of THE LANCET.

SIR,—In an interesting paragraph with this title which appeared in THE LANCET of Oct. 4th, p. 1037, I think you [illegible] says that "the last lock [illegible] of such saintly repute, wh[illegible] doned the use of profane [illegible] hardly be regarded as an [illegible] of the "Pilgrim's Progres[illegible] ture form (Frowde, 1896) [illegible] presumably a reprint of earlier editions. In most, if not all, modern popular editions of the classic the word "damnable" [illegible] is also an example [illegible] note because of the [illegible] quite unintelligible, an [illegible] e that Defoe, who pictured to [illegible] as he wrote it, would have giv[illegible] an old edition of the immort[illegible] fortunate possessor of a copy of t[illegible] e one, dated 1781, with Defoe's interesting preface) we find a different term used, which makes the manœuvre explicable and clever. Instead of "waist" Defoe says "twist"—i.e., the fork of the body; and it is easy to realise how the Moor's *corpus* was propelled into the sea by a good shove.

I am, Sir, yours faithfully,
F. LUCAS BENHAM, M.D.
Semaphore, South Australia, Nov. 5th, 1913.

WITHDRAWAL FROM THE PANEL.

Glossiana.—Our correspondent will find his questions [illegible] evised Medical [illegible] tly or through [illegible] ited, 29, Breams [illegible] 3½d.

HOUSING AND TOWN PLANNING ACT: A LITTLE ECONOMY.

To the Editor of THE LANCET.

SIR,—In order to secure the proper execution of this Act it [illegible] almost complete lists of house occupiers, and with very little trouble might be made quite complete. If the Clerks of the Peace cannot be persuaded to give them to the rural and small urban district councils for public purposes, being but waste paper for their original purpose, then it were well that they be purchased at waste paper price, for they are of far more value than that for housing recording. Being arranged in parishes in [illegible] have left undone which ought to be done. We do not want to incur great expenses in printing, but when the expense is incurred, why should we not have the advantage of it, seeing that it is out of our pockets (ratepayers) that the money has come to print the voters' lists.

I am, Sir, yours faithfully,
Dec. 6th, 1913. A MEDICAL OFFICER OF HEALTH.

THE CASE OF MR. H. T. HAMILTON.

To the Editor of THE LANCET.

SIR,—In addition to the £62 13s. already acknowledged for this fund I have now to add the following subscriptions: Mrs. Grant, Barnes, £1 1s.; Mr. Randall, Barnes, £2 2s.

I am, Sir, [illegible]
86, Sutherland-avenue, M[illegible]

R. H. R.—Our correspondent does not say the purpose for which the motor car is required. We will presume, however, that it is required for use in practice and for occasional pleasure trips. A four-seater will therefore be [illegible] lessons, and they will in most cases [illegible] and quickly enable him to run his car for professional purposes with satisfactory results. The particular car mentioned by our correspondent, the Rover 12 h.p., has been driven by one of our staff this year between 5000 and 6000 miles, and he is thoroughly satisfied with it. The 1914 pattern is recommended, with sump under the float chamber, removable fuel tank, electric light (particularly convenient in medical practice), ventilators in the dash, and the extra length chassis. The catalogue price of both

African war, and this occurrence is probably to be ascribed to the decrease in stability of flight the pointed bullet possesses.

INJURIES TO BLOOD-VESSELS BY MODERN AND OLDER BULLETS.

In the case of injuries to narrow structures, such as the blood-vessels and peripheral nerves, the new bullet appears, by reason of its sharp point and penetrating power, to effectuate even more clean and narrow perforations than its predecessors. With regard to wounds of the blood-vessels, it is of interest to note that one observer states that of 15 cases of aneurysm treated by him the bullet was retained in more than a third of the whole number.[2] I have only come across the description of one case[3] in which the retained core of a small-calibre bullet closed the lumen of the femoral artery; this occurring in the Manchurian war.

Wounds, the main importance of which depends upon the implication of the large vascular trunks, have been a common characteristic of gunshot injuries for all time, and certain features of these injuries have undergone no material change. Thus the comparatively small tendency to be accompanied by great primary hæmorrhage, the frequency with which they are followed by secondary hæmorrhage, of the development of hæmatomata or aneurysms. The most striking feature of the vascular wounds produced by bullets of small calibre is the lessened liability to afford external secondary hæmorrhage and the greatly increased frequency in which they are followed by the development of some form of aneurysm. This change no doubt depends in some measure upon improved methods of surgical treatment, but in the main is due to the limited nature of the wound, its narrow track, its comparative asepticity, and the infrequency with which extraneous matter is introduced with the bullet.

Certain special characters of the older bullet wounds of vessels, such as the temporary control of hæmorrhage by the retained bullet, the retention of the bullet within the lumen of the vessel, or the travelling of the bullet along its course, have become far less common.

Let us now consider how far the older surgeons were justified in their opinion that primary hæmorrhage due to gunshot injuries of the vessels is to be regarded as less formidable than that resulting from injuries by other weapons. I think their opinion may be fully supported by a glance at a few specimens placed upon the table.

(*3051*). *R.C.S. Museum.*—We have here a gunshot wound of the first part of the aorta; the bullet is retained within the lumen of the vessel, while the aperture of entry is partially closed by a plug of skin and adipose tissue. The man did not die until the third day.

(*34.2*). *Museum of the R.A.M.C.*—A large lateral wound of the common carotid artery and complete division of the internal jugular vein. This wound was followed by secondary hæmorrhage on the thirteenth day, and the man did not die until after a recurring secondary hæmorrhage on the twenty-fourth day.

(*34.6*). *Museum of the R.A.M.C.*—A round-shot lateral wound of the femoral artery with complete division of the vein. Secondary hæmorrhage occurred on the eleventh day and death upon the twelfth.

It will be observed that in each of the two latter specimens the wound in the artery is partially closed by firm clot, and it is reasonable to assume that under modern wound conditions the occurrence of secondary hæmorrhage would have been replaced by the formation of an aneurysm. Again, both in the case of the wounds of the carotid and the femoral the loss of substance is not more than might be dealt with by modern methods at the period at which the secondary hæmorrhage took place.

Let us now turn to the anatomical characters of the injuries inflicted upon the [illegible] bullet of small calibre. It is [illegible] that the wounds will not materially differ in nature from those observed on the surface of the body. The skin and the vessel wall possess many characters in common; both are elastic and both offer but slight resistance to the passage of the bullet, the only marked difference lying in the contractility of the artery, which tends to close and at any rate temporarily diminish the size of the opening made in its wall.

We are aware that in elastic structures like the blood-vessels the area of tissue destruction will be less extensive than one corresponding to the calibre of the bullet; also that the revolution of the bullet and the force it exerts laterally as a result of its generally conical form tend to displace the component parts of an elastic cord, such as a nerve, [illegible] division of the fibres.

[illegible] be either of the [illegible] while the extent [illegible]

[illegible] the vessel [illegible] notch, a cl[illegible] complete division results; wh[illegible] oblique, more extensive loss of [illegible] such injuries reaching their most marked degree when the bullet courses for some distance directly along the vascular cleft. It need only be mentioned that when the wound is complicated by a fracture of a bone the injury to the artery may be produced by a spicule of bone and partake of the nature of a puncture or a more or less complete laceration.

CONTUSION OF THE VESSEL WALL.

It is difficult to gauge the importance of this injury. There is no doubt that the contusion may be sufficiently severe so to damage the tissue of the vessel wall that in the event of infection and suppuration the injured area may give way, and separating give rise to secondary hæmorrhage. That this accident may occur is a common experience. Judging by my own observation, I think it is also probable that contusion may be followed by the development of a cicatrix, which permanently narrows the calibre of the vessel, and may possibly lead to its complete obliteration.

A specimen of Mr. Guthrie's preserved in the Museum of the Royal Army Medical College shows the femoral vessels entirely occluded in the neighbourhood of a suppurating bullet track passing behind them. In this instance, of course, the greater contusing power of the old leaden bullet must be borne in mind. In the case of aseptic wounds I doubt if contusions often give rise to troublesome after-results.

COMPARATIVE FREQUENCY AND RESULTS OF VARIOUS FORMS OF WOUNDS.

Some information is to hand as to the comparative frequency and results of the different varieties of wound of the vessel wall. Th[illegible] W. F. Stevenson, A.M.S., in his [illegible] African campaign, includes the nature of the lesio[illegible]

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[2] Frisch: Ibid., p. 710.

[3] Kikuzi: Beiträge zur Klinischen Chirurgie, Band l., p. 21.

[4] Report on the Surgical Case[illegible]ted in the South African War, 1899-1902. London, 1905.

re per-
venous
Saigo[5]

includes the nature of the lesion in 34 cases. Of these, 21 were lateral wounds resulting in 13 arterial and 8 arterio-venous aneurysms; 11 were perforations resulting in 4 arterial and 7 arterio-venous aneurysms; and 2 were complete divisions. In a total of 50 cases we find 29 lateral wounds = 58 per cent.; 15 perforations = 30 per cent.; and 6 complete divisions = 12 per cent. Also that perforation of the vessels more frequently leads to the development of an arterio-venous aneurysm (60 per cent.) than does a lateral injury (40 per cent.).

Naturally little information exists as to the results of incomplete lesions,
interest may be noted.
artery resulted in the
ance the size of a ha
signs of a traumatic
made to cure the con
coats of the vessel over
demonstrating the necessity
intima for a successful arterial suture. In the second case (Stevenson)[6] (Case 28) a non-penetrating injury of the axillary artery was followed on the twelfth day by the formation of an arterial hæmatoma. On the fourteenth day this was laid open and a graze one inch in length implicating the outer coats of the vessel was discovered which had given way in the centre.

With regard to the comparative frequency of lateral wound, perforation, or complete division, it is probable that the numbers given above are not strictly accurate, since they are founded on observations made on lesions followed by the development of aneurysms, and fail to take into account the large number of cases in which hæmorrhage either ceased spontaneously or led to death. One or two points of interest, however, arise from the consideration of Table I. together with Table II. First of all, the frequency with which any artery is hit naturally corresponds directly with its calibre and the length of its course. Secondly, if we analyse 42 cases we find that the frequency of perforation depends not only on the width of the vessel, but also on its comparative fixity of position; thus, perforation of the femoral and popliteal vessels is common, while the axillary artery, a trunk but little smaller, frequently escapes with a lateral injury.

TABLE I.—*Cases of Lateral Wound and Perforation.*

(From the Statistics of Saigo and Stevenson.)

	Lateral wound.	Perforation.	Total.
Carotid	1	1	2
Subclavian	2	1	3
Axillary	6	1	7
Brachial	10	1	11
Femoral	7	8	15
Popliteal	1	3	4
Totals	27	15	42

quency of complete
is more difficult to
determine, since it is probable that a considerable proportion of the instances in which it occurs are followed by early death from hæmorrhage, but it is significant that in the series from which the above small table is taken complete division of the artery was observed six times, and that in five of these instances the popliteal was the vessel implicated; in the
divided
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is probal
artery is commonly struck in the condition of full tension corresponding with the extended position
he bullet
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irregularly, giving the impression of having been gnawed out; again, that a lateral wound involving more than half the circumference of the artery gapes widely longitudinally, acquiring a greatly increased size, in consequence of the elastic nature of the vessel wall. The artery hence becomes incapable of conducting the blood and the injury is comparable to a complete division.

Perforating wounds do not separate so widely in consequence of the continuity of their margins; the loss of substance is also less, the size of the opening not equalling the calibre of the bullet. Perforations cause some obstruction to the circulation due to the escape of blood, and the effect upon the vessel is to produce some proximal and a lesser distal dilatation of the lumen.

In proceeding to a consideration of the results of these injuries, it is of interest to premise that we are here met with one of the most striking anomalies of military practice, since we are about to deal with a series of complications not one of which would be met with did not the exigencies of the work in the field render it impracticable to abide by a fundamental rule of surgery—i.e., that a bleeding vessel should be secured at the first possible moment after its injury.

PRIMARY HÆMORRHAGE.

The question as to the proportion of vascular injuries which lead to early death upon the field of battle seems one almost incapable of an answer. There can be no doubt that it is a large one, and in support of this it is only necessary to mention the fact that hæmorrhage from, or aneurysms developing in connexion with, the large arteries of the trunk practically receive no mention in the large series of cases reported from recent campaigns. Operations upon the great vessels of the neck and the limbs are

trunk. It seems therefore reasonable to assume that wounds of these vessels lead with few exceptions to rapid death. The same result probably follows a certain proportion of the wounds of the large vessels in the limbs also.

In connexion with this subject we may conveniently consider the question of spontaneous

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[5] Deutsche Zeitschrift für Chirurgie, Band lxxxv., 1906, p. 577.

[6] Loc. cit.

[7] Archiv für Klinische Chirurgie, vol. lxxx., 1906, p. 395.

THE METHOD OF SUTURE.

Let us now proceed to consider more fully the latest addition to methods of treatment. Suture, whether lateral or circular, may well be considered the ideal procedure, since by it alone can the normal circulation be re-established and maintained, and sufficient evidence has now accumulated to allow a provisional judgment being given as to its advantages.

1. The method of suture obviates the necessity of any dependence on the establishment of a collateral route for the circulation. This even in the healthy young men, commonly the subjects of military surgery, must be regarded as an important feature, the more so that in the early stages of arterial hæmatomata blood extravasation may interfere with the compensatory enlargement of quite normal collateral systems.

2. By the method of suture no loss of length of the artery is suffered, and the least chance of destroying any collateral branches is attained, the latter point being of some weight should the suture be followed by local thrombosis.

3. By this method not only is the immediate vitality of the limb less endangered, but the chances of permanent deficient nutrition consequent on an imperfect and insufficient blood supply are lessened or abolished.

The Immediate Vitality of the Limb.

There seems no question that the first two of these propositions must be conceded; the third needs further examination. First, as to the immediate vitality of the limb. It is stated that a review of published cases shows that gangrene follows the operations of ligature in from 6 to 12 per cent. of all cases. This is probably not an excessive estimate if both traumatic and spontaneous aneurysms are taken into account, but I think if the traumatic aneurysms are considered separately, and further, if the purely arterial aneurysms are considered apart from those in which an arterio-venous communication is present, that the ligature of a healthy artery is not to be regarded as so dangerous a proceeding.

In the case of 31 direct ligations of large arteries for arterial hæmatoma and circumscribed aneurysm in the South African war gangrene did not occur in a single instance; and in 30 cases of proximal ligature for the same condition only one case of gangrene (following ligature of the femoral) occurred, 1·6 per cent., and one patient died, 1·6 per cent., from septicæmia one month after the operation, the aneurysm itself being cured. The bad results followed the operation of proximal ligature for arterio-venous aneurysms, an operation which except in some special instances should never be performed.

Again, if the 26 extirpations combined with ligature by Saigo are considered, gangrene occurred in only two instances, and here was minimal in degree, resulting in the loss of a thumb after ligature of the axillary artery, and of the toes in one case of ligature of the femoral artery.

To compare with these results we may take, first, 31 cases of suture performed in civil practice, collected by Tscherniachowski,[14] including 15 isolated sutures of the artery, 7 isolated sutures of the vein, and 9 sutures of artery and vein. Of the aneurysms treated 11 were arterial, 20 arterio-venous. Amongst these cases gangrene also occurred twice, once in a remarkable instance in which repeated secondary hæmorrhages followed suture, resuture, ligature, and amputation; and in the second as the result of an infection causing gaseous cellulitis. In the matter of gangrene these statistics show a slight advantage.

In 22 cases of arterial suture collated by Subbotich during the Balkan war gangrene occurred once after lateral suture of the popliteal artery and vein, and once after circular suture of the external iliac artery combined with ligature of the vein. In a case of incipient gangrene following a wound of the popliteal artery lateral suture failed to arrest the process. If the two cases only are counted there is a percentage occurrence of 9 per cent.

It is obvious that these numbers are far too small for any definite deduction to be drawn; again, that they probably represent only a small proportion of the cases operated upon; but they, at any rate, go to prove that under existing conditions the employment of suture has not abolished the occurrence of gangrene.

The Later Nutrition of the Limb.

As to the question of permanent lowering of the nutrition of the limb, in civil practice, given fair condition of the blood-vessels, this sequela has not been one which in the past has attracted serious attention on the part of the surgeon. In fact, I think surgeons have looked upon the ligature of a large artery as a satisfactory operation in regard to its permanent results. In military practice in my own experience I have seen bad results; thus a condition not appreciably differing from that of Volkmann's contracture of the leg in two instances after ligature of the popliteal artery for arterial hæmatoma, and again gangrene of the leg following a slight injury some months subsequently to ligature of the superficial femoral artery. In these cases, however, I think some weight must be given to the widespread nature of the blood extravasation and dissection of the limb, the unsatisfactory conditions under which the cases were treated (both the popliteal cases came from field hospitals), and perhaps to the neurasthenic state of the patient himself.

Frisch,[15] on the examination of 10 cases in which arteries had been tied at periods of from one to eight years, found only 4 sound limbs; in the remaining 6 trophic changes were present. Again, Koratkoff estimated the peripheral blood pressure in 17 patients in whom arteries had been tied, and found it to be: in 7 cases, less than half that of sound limb; in 4 cases, about half; in 4, more than half; and in 2, equal to that of sound limb; and in one of the last two cases the estimation was made only six weeks after the operation. These numbers speak for themselves, but, of course, it still remains to be seen whether a series of sutures will show better results.

Thrombosis.

Intimately connected with the occurrence of gangrene is the question of how frequently thrombosis follows the operation of suture. We know from the results of experimental work that thrombosis does occur in a certain number of instances; further, that its occurrence is determined by even small errors in an exacting technique.

Again, the clinical observation[16] of a firm thrombus $1\frac{1}{2}$ cm. in length on the sixth day, extending from the site of a lateral wound in the femoral artery and giving rise to gangrene of the leg, is suggestive of the risk of a wound inaccurately closed A case of spontaneous thrombosis of the femoral artery after complete division, accompanied by no local blood extravasation, is also recorded by Subbotich In this incipient gangrene was noted

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[14] Deutsche Zeitschrift fur Chirurgie, Band cxxiii., 1913, p. 1.

[15] Archiv fur Klinische Chirurgie, Band lxxix., p. 515.

[16] Von Manteuffel: Ibid., Band lxxxi., p. 1.

A precise determination as to the sequence of thrombosis to suture of the artery in surgical practice is hardly possible, since, even does the artery thrombose, the patient is in no worse plight than if a ligature has been applied The only useful indication is to be sought in the peripheral blood pressure, but of this in most cases we have only the rough estimate which can be obtained by feeling the pulsation in a distal artery In Tschermachowski s *table of 16 lateral sutures among* 14 cases which survived the peripheral pulsation is noted as weaker in two cases, while in 2 weak pulsation noted before the operation became normal *after the artery had been sutured* Among 9 cases of circular suture of the artery, in 2 instances no return of pulsation in the posterior tibial or dorsalis pedis followed suture of the popliteal artery, while in 1 the renewed pulsation was observed to become weaker In 1 case of suture of the axillary and 1 of the femoral artery pulsation returned when none had existed prior to the operation In 4 further cases where both artery and vein were joined by circular suture in 1 case (Lexer) the peripheral pulse was noted to be weaker at the end of eight months, possibly as the result of cicatricial contraction at the site of union In 2 out of 24 cases in Subbotich s paper the development of gangrene points to the occurrence of thrombosis of the artery

Other Accidents

Lastly, we have to consider how far the practice of suture is exempt from the other accidents which sometimes follow upon operations on the arteries Unfortunately not very much information is to hand on this subject The mere failure to be able to apply the method either from the discovery of a defect too extensive to allow of repair, or from technical difficulties dependent upon the position of the wound, is of little moment, since the exploratory operation may equally well be employed for ligation of the vessel

The more serious question of failure in competency of the suture itself, either from primary insufficiency of the stitch or from secondary infection, is more important Among the cases collated by Tschermachowski no such accidents are recorded but even here the fallacy depending on the fact that unsuccessful operations are not freely published must be given due weight Z von Manteuffel records a case in which a lateral suture applied to the femoral artery on the sixth day leaked, and had to be supplemented by a double ligature and here one may emphasise the fact that von Manteuffel himself has questioned the suitability of recent wounds to primary suture by reason of their contused nature Again Subbotich while he records the fact that secondary hæmorrhage followed none of the 22 operations performed in the Belgrade Hospital, adds in speaking of arterial hæmatoma ' The hæmatoma must be removed, the bleeding vessels dealt with, and the cavity drained after complete closure by suture of the incision wound by other openings specially made for the purpose In these cases secondary hæmorrhage may occur after several days and be very serious

COMPARATIVE RESULTS AND CONCLUSIONS

The comparative results obtained in 41 cases of ligature and 24 cases of suture in the Belgrade State Hospital is as follows Ligature, 41 cases, gangrene, 6 cases (14 6 per cent), and deaths, *4 cases (9 75 per cent) One death due to softening* of the brain and pneumonia after ligature of the carotid, 1 from secondary hæmorrhage, 1 from sepsis, and 1 from anæmia and exhaustion Suture, 24 cases, gangrene, 3 cases (12 5 per cent), and deaths, 2 cases (8 3 per cent) These figures, while exhibiting no very striking superiority for the new method in immediate results, at least thoroughly justify its employment, and this justification may be strengthened in the future if it can be shown that the permanent result is better in regard to the condition of the limb On this latter point I can only quote again Subbotich "On seeing some months later cases that have been operated upon, we find *both* in cases of ligation and of suture, greater or less interference with the functions, such as muscular weakness neurasthenia, œdema, &c On the other hand, we find some quite ideal cases '

What conclusions are we to draw from these results? Operations for wounds of the arteries may have to be undertaken during three distinct periods, which may be classed as primary, intermediate and secondary

Primary Operations

1 The operation of choice for primary hæmorrhage from a gunshot wound in the field is direct ligature In support of this opinion may be advanced the comparative simplicity of the operation and its applicability even under adverse conditions Primary ligation should be confined to cases in which hæmorrhage is obviously endangering life

The objections to the method of suture are twofold, first the local conditions are not favourable in consequence of the contused and tattered margins of the opening in the artery commonly met with The anatomical character of the wound, in fact is unfavourable both to the safe closure of the wound and to the avoidance of subsequent thrombosis in consequence of the impracticability of ensuring an accurate apposition of the intima One has only to consider the fact that the comparatively slight damage attendant upon the use of toothed forceps to facilitate the introduction of the suture is generally considered enough to risk subsequent obliteration of the vessel by thrombosis to come to the conclusion that the ragged contused margins of a gunshot wound are ill suited to suture Secondly although these difficulties are to be avoided in certain cases by excision of the damaged portion of the vessel and circular suture of the proximal and distal ends yet this undertaking needs so much time, skill, and perfection in the general surroundings that it cannot be regarded as a practical procedure

In this stage there is no doubt that a line must be drawn between the wounds of civil practice in which suture may be advisable, and the wounds produced by bullets of small calibre When primary operations are necessary and the wounded artery is dealt with during the first three days the difficulty of evacuating the clot may not be great, while the procedure saves much time and the general nutrition of the limb suffers less than if a secondary operation is waited for Further, where incipient gangrene threatens, the limb may be rescued by relieving the collateral circulation from the pressure exerted by the hæmatoma The latter in their production and no limit to their variations. The same is true of the grimacing. In tic a single movement or series of movements, such as blinking the eyes, shaking the head, nodding, twitching the mouth, &c., is repeated again and again. In chorea the whole gamut of the emotions may be reflected in the face in ever-changing order. In some cases, however, more difficulty may be encountered. This is particularly so when chorea and tic are present at the same time, the chorea being slight. The tic may obscure the clinical picture and the associated chorea escape detection. This combination is not so very rare, for the same type of child is prone to both affections. Again, in "residual" chorea, when the active stage of the disease is over, the movements may gradually become automatic, and the choreic child become in very truth a *ticqueur*, entering upon a state of chorea-like automatism which may persist for years.

The involuntary "athetoid" movements sometimes seen in cases of cerebral diplegia may be confused with those of chorea, but here the stiffness of the limbs, the exaggerated reflexes, the extensor plantar responses, the history and possibly the mental condition soon serve to put one on the right track. I have known meningitis and encephalitis in the early stage mistaken for chorea by very competent observers. When the vertex of the brain is primarily affected the convulsive movements of cortical irritation may very closely resemble those of severe chorea, but time soon corrects one's early impressions, bringing, as it does in the former case, rigidity, deepening unconsciousness, cranial nerve paralysis, optic neuritis, and the whole symptom-complex of meningitis. If it is important to dispel doubt quickly lumbar puncture will complete the diagnosis.

The paralytic form may escape recognition if the case is not seen in the early stages. After a period, during which the usual choreic movements have been present, the child lies helpless, unable to move her limbs, to lift up her head or to change her position. Aphasia is usually present, and there may be incontinence of urine and fæces. By no means under her control is she able to signify her wants. If she is lifted out of bed the limbs fall down and the head drops back much as occurs in early infancy. The muscles are very soft and flabby, so that the name "chorea mollis" is sometimes given to this form. The knee-jerks and other tendon reflexes are usually absent. The condition may persist for months. In such cases the diagnosis from some form of toxic neuritis has to be made. A history of previous choreic movements is of great value. Even when the paralysis is marked, by exceptional exertion some erratic movements of the hands may be recognised, whilst grimacing is not usually in complete abeyance. The presence of aphasia aids the diagnosis, and also the absence of loss of sensation, whilst the feel of the muscles is very characteristic. From diphtheritic paralysis the case may be diagnosed by the absence of ocular, palatal, intercostal, or diaphragmatic paralysis. In the paralytic form the degree of toxæmia may be very great, and the appearance of the patient may almost suggest that of typhoid fever. There may be much prostration, a very coated tongue, sordes on the lips and tongue, mental derangement, perhaps accompanied by hallucinations, and a considerable degree of fever. Here, again, the history of previous choreiform movements and their persistence to a very slight degree will usually serve to establish the diagnosis. The curious cry of chorea—like that of an animal—may recur again and again.

Prognosis.

It is generally agreed that the prognosis of chorea is very favourable, although it is impossible to fix the probable duration of an attack with any degree of precision. Six weeks is often held to be the minimal time during which it continues, but this, I think, is too short in the majority of cases and takes no account of the initial period before the symptoms are well marked. The most severe cases often terminate the most abruptly, and those with an extreme degree of movement frequently return to complete health in a much shorter time than others of very moderate severity. The paralytic and toxic types are apt to be long drawn out, but recovery almost always follows in the end, despite the serious nature of the condition. The latent form is liable to persist for months, the even tenour of its way being broken by more definite attacks. Death by exhaustion is a rare occurrence in the cases associated with a very marked degree of movement. Parhaps the two most important questions to ask in such cases are with regard to sleep and feeding. As long as the child is sleeping well, and can be fed naturally, no untoward result need be feared. In the rare cases where serious cardiac disease, such as myocarditis or pericarditis, accompanies the chorea the outlook is very grave. Speaking generally, the condition is serious, not from its immediate danger to life, but because of its rheumatic origin, its chronicity, and its tendency to recur. In this way it interferes greatly with school life, hampers education, and keeps the child below the standard of her fellows, although she is often endowed with more than the average number of talents. Valvular disease may start insidiously, and is often of a slowly progressive form, bringing with it the probability of repeated cardiac failure and chronic invalidism in later life. Poynton has remarked the particular association of chorea with persistent tachycardia and a progressive mitral stenosis.

Treatment.

The essential part of treatment during the active stage is *rest* both for the body and for the mind. The child should be put to bed in a quiet room, preferably darkened. When other children are treated in the same ward screening is distinctly advantageous. If the movements are so severe that the child is in danger of hitting and bruising herself or of falling out of bed, the sides of the bed should be raised and padded. Failing this, it is wise to make up a bed of considerable dimensions on the floor. All sources of excitement should be prohibited, and visits of friends and relatives should be avoided as far as possible. It is easily observed in hospital practice that on visiting day the distress caused by the arrival and departure of the relatives is followed by a period of enhanced excitability, and any entertainment, such as a birthday party or Christmas tree, has a similar effect.

Diet.

There is no need to restrict the diet; the appetite is usually good and food is taken readily. It must be given in fluid or semi-solid form, however, for mastication is far from easy, and meat, if not minced finely or pulped, is apt to be swallowed in large indigestible lumps. In more severe cases swallowing may be difficult, and food in jelly form is more suitable. Such are firm custards, jellies (in which pulped meat may be suspended), junkets, &c. In the worst cases it may be necessary to feed by a nasal or œsophageal tube.

Medicinal.

I do not recognise a specific remedy in the treatment of chorea. I think you will agree that we have all seen cases which appeared to react quickly to a particular drug, whilst other cases apparently analogous were uninfluenced by it. In some cases after a short rest in bed the symptoms rapidly and unexpectedly subside; in others, apparently similar, the chorea persists in spite of the use of several therapeutic agents. There is a logical basis for the administration of sodium salicylate or aspirin because of their effect upon rheumatism—and we most of us regard chorea as a rheumatic manifestation; but, again, it must be confessed that in following a long series of cases treated in this way it is difficult to be sure that these drugs are capable either of diminishing the severity of an attack or of shortening its duration. However, I usually prescribe one of these drugs, for they are accredited with striking at the root of the disorder—namely, rheumatism—and by their administration one may hope to ward off further rheumatic manifestations. They are especially indicated if the temperature is raised, and should be pushed in sufficient doses to bring it down to normal. Dr. D. B. Lees advises that 400 to 500 grains of sodium salicylate should be given in 24 hours, and has himself given even more. Speaking with all due deference, I cannot say that I have found that these large doses have a better effect than others of more moderate size. If salicylates are used, whether in large or small doses, certain precautions should be taken to avoid poisoning symptoms. Those which are most to be feared are due to acid-intoxication, and resemble somewhat diabetic coma. The child becomes drowsy, her respirations deep and noisy (air hunger), vomiting occurs, the breath is sweet from the presence of acetone, and acetone and diacetic acid are found in the urine. If the salicylate is not discontinued the child may sink into coma and die, though this is a very rare occurrence.

These symptoms may be avoided if two precautions are exercised—first, the bowels should always be kept well open; and, secondly, twice as much sodium bicarbonate should be given as sodium salicylate. Before beginning salicylate treatment it is well to administer a purgative, and the bowels should have been opened within the 12 hours preceding any increase in the dose. By attention to these details all anxiety concerning acid-intoxication disappears.

Arsenic is perhaps the drug which is used next most frequently in the treatment of this condition, and some authorities state that it should be pressed until symptoms of arsenical poison supervene. There are two ways in which it is usually given—one in very large doses for a short time, until toxic symptoms arise, and the other in smaller doses for longer periods. I cannot say that I have been impressed by the value of the drug, whilst it has been my unfortunate experience to encounter more than one case in which arsenical neuritis was produced—a condition which takes far longer to get well than that for which the drug was given.

During the time that I was medical registrar at the Hospital for Sick Children, Great Ormond-street, I had the opportunity of watching the effect of treatment by drugs on chorea. In one ward very large doses of sodium salicylate were being given in every case. In another arsenic was extensively tried, whilst in a third no drug treatment was relied upon, and many of the patients received no so-called specific for the disease. Two years' observation of the cases in the different wards failed to convince me that the patients improved more rapidly in one than in another, and, indeed, some of the most satisfactory cases were those in which no special drug took any part in the treatment. Chloral and bromides are particularly useful where there is loss of sleep, and have a very special indication in those patients who, with extremely active movements, begin to show signs of exhaustion from loss of sleep. When used for these particular cases I believe that sedatives, of which these two are examples, are of great value. Another measure of great assistance in such cases is the hot pack.

I have been able to watch the effects of treatment by chloretone, a drug which has been advocated strongly by Dr. Essex Wynter for this condition. Again, I must confess to a failure to recognise any great advantages accruing. If the drug is pushed the children become very drowsy, and no doubt movements are less as the result; but it is questionable whether the good effects warrant this procedure except in cases of great loss of sleep, such as those which react to other nerve sedatives and the hot pack. Ergot has been recommended by Dr. Eustace Smith. My experience of it is very limited, but as far as it goes it agrees with that of others who have written on the subject, and who have been unable to obtain his good results.

After-Treatment.

The after-treatment of chorea is almost as important as the treatment of the acute attack. There comes a time when the active stage is over, but the child lies in a listless state with general muscular feebleness and perhaps slight movements. Further rest in bed produces no improvement. At this stage it is advisable to encourage the child to perform voluntary movements and to re-educate its coördination. Massage and passive movements also play a useful part at this time. Many simple devices may be employed to re-establish coördinated movements.

At the beginning of this form of treatment such simple exercises as apposing the corresponding fingers of the two hands or touching the nose with each finger in succession are useful. While the patient is still in bed the following exercise may be used: heel to toe, heel to shin, heel to knee, first with one leg and then with the other. Afterwards somewhat more complicated movements may gradually be introduced, such as placing a cribbage-peg into every second, every third, or every fourth hole, games of draughts, halma, dominoes, and the like. When the patient is out of bed coördination of the legs may be re-educated by getting her to walk along a straight line, on chalk dots, or on certain parts of the pattern of the carpet. These are only a few examples of many exercises which may be devised with a little ingenuity. By such means the period of convalescence may be shortened materially, and the incidence of residual chorea and choreiform automatism considerably diminished.

Queen Anne-street, W.

outlined above, in order to avoid mistakes. The following rough outline will aid in deciding upon the percentages and amounts to be used. For children under 6 years of age a 50 per cent. solution should be employed, allowing 1 ounce for every 20 lb. of body weight; this mixture is non-irritating, and no preliminary medication is required. For patients from 6 to 12 years of age, use a 55 to 65 per cent. solution, without preliminary medication, keeping the patient quiet, and allowing 20 to 30 minutes for the full effect; allow 1 ounce for every 20 lb. of body weight, as before. For patients from 12 to 15 years of age, use the same percentages and amounts, with possibly the addition of 1/12 grain of morphine and 1/200 grain of atropine, given hypodermically as a preliminary. From 15 years upward a 75 per cent. mixture is employed, the amount and preliminary medication varying with the size and general condition of the patient, and the same rule being followed as to quantity—that is, 1 ounce for every 20 lb. of body weight. Thus we see, for an adult weighing about 160 lb., 8 oz. would be required. This represents the usual dose for the average patient.

The administration of any preliminary medication will always vary, depending largely upon the opinion of the surgeon or anæsthetist. For adults I usually employ 5 grains of chloretone, dissolved in 2 drachms of ether and mixed with an equal amount of olive oil, given per rectum 30 minutes before the operation. In addition to this $\frac{1}{8}$ to $\frac{1}{4}$ grain of morphine, with 1/100 grain of atropine, is given hypodermically at the same time—the larger doses being given only to athletes and alcoholics.

Technique and Apparatus.

The patient should receive the usual medication as for any operation, avoiding purging. In addition, the colon should be thoroughly irrigated until the return is clear. A rest in bed of two hours or more before the preliminary medication is required.

The apparatus required is very simple—a small catheter and funnel, two small rectal catheters inserted side by side, and a towel placed over the face from time to time to prevent the dilution of the anæsthetic in the air passages. When the patient is satisfactorily narcotised the towel is withdrawn.

The mixture (2 ounces of olive oil and 6 ounces of ether) is given with the patient in bed on the left side, in the Sims position, a convenient lifter having previously been placed under him. It is not always necessary that he should know that an anæsthetic is being administered. A small catheter, well lubricated, is then inserted 3 to 4 inches within the rectum; to this catheter a funnel is attached. The mixture should be poured slowly into the funnel, taking at least 5 minutes for 8 ounces, the usual amount. It is best not to withdraw the tube until the patient is partly unconscious and the muscles are relaxed. From 5 to 20 minutes (according to the percentage used) should be allowed for the anæsthetic to take effect before the patient is moved. The patient should then be lifted gently on a stretcher and carried to the operating-room. The anæsthetist at this time should see that a clear airway is maintained when necessary by placing a finger under the symphysis of the lower jaw. If the patient shows signs of approaching cyanosis, loss of lid reflex, stertor, or embarrassed respiration of any kind, 2 or 3 ounces of the mixture should be withdrawn by the small rectal tube placed 4 to 6 inches up the rectum. If the breathing is easy and regular, with the reflexes active, the patient will be found to be relaxed and in surgical narcosis as far as the operation is concerned.

At the end of the operation the two small rectal tubes should be placed in position, as high up the colon as convenient without traumatism, and cold water soapsuds injected into one tube and drawn off through the other; 2 to 4 ounces of olive oil should then be introduced into the rectum and the tubes withdrawn. The patient should be gently returned to bed, with as little jolting or handling as possible, the room should be darkened, and free ventilation secured.

In some of the cases novocaine was injected locally at the site of the operation after the patient came on the operating table; in other cases no local anæsthetic was used. Where this is done and the oil-ether rectal method is used as outlined every principle of anoci-association as enunciated by Crile[3] will be fulfilled, and the patient awakes quietly, without nausea, vomiting, or pain, the analgesia continuing for some time after consciousness is restored.

New York.

DEVELOPMENT OF THE PHARYNX BY MUSCULAR EXERCISES AFTER OPERATION FOR ADENOIDS,

WITH SPECIAL REFERENCE TO FEEBLE-MINDED CHILDREN.

BY FRANCIS WARNER, M.D. LOND., F.R.C.P. LOND., F.R.C.S. ENG.,

CONSULTING PHYSICIAN TO THE LONDON HOSPITAL AND LECTURER ON THE NEUROSES AND PSYCHOSES OF CHILDREN.

IN children with adenoids and naso-pharyngeal obstruction, when a digital examination is made the pharynx is usually found to be small, and this interferes with respiration, deglutition, and good speech; this condition is specially frequent in the small-headed children so commonly seen among the feeble-minded. During the last two or three years I have used exercises of the pterygoid muscles for the purpose of developing the bony boundaries of the pharynx with favourable results; the strength of the jaw movements has certainly become stronger; in each case deglutition and speech have somewhat improved, and I think it likely there has been growth of the sphenoid bone with widening of the space between the pterygoid plates which form the lateral boundaries of the upper pharynx; but I know of no accurate gauge of the size of this space other than the finger.

When the finger is passed above the palate in examination for adenoids the pharynx is often found to be small. This space is bounded behind by the basilar process of the occipital bone, with the body of the sphenoid, and laterally by the internal plates of the pterygoid processes and the hamular processes; the dimensions of this space increase with growth of the sphenoid as a whole. The muscles arising from these pterygoid bones are of considerable strength, and are inserted into the lower jaw, producing by their action lateral movements of the chin and protrusion and retraction of the lower jaw; their action (when in tension) affords a stimulus to the growth both of the sphenoid and inferior maxilla. The sphenoid in the normal continues to grow till about the tenth year.

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[3] THE LANCET, July 5th, 1913, p. 7

When the adenoid growths have been removed and the respiratory passages are clear, after convalescence useful exercises may be taught by a teacher, under the medical man's directions, to work the pterygoid and other jaw muscles. The chin should be held firmly by the teacher's fingers to prevent its movement and produce muscular tension, while the teeth are slightly separated; the pupil is then told to try to press his chin to the right, then to the left, when the effect of muscular action is indicated by the pressure produced. The jaw may next be pressed forward, as in protruding the teeth, then retracted. These exercises may be followed by downward pressure of the jaw against the teacher's hand, and clinching the teeth or biting on a piece of indiarubber, till the temporal and masseter muscles are felt to harden. Such exercises may be repeated half a dozen times. If action of the facial muscles is avoided with these exercises, and the chin is held firmly, I have not found that they cause grimaces or tooth grinding.

After the exercises have been taught by the teacher for a sufficient time it is usually better to hand over the work to the drill instructor; as the muscular power of the jaw movements grows stronger a corresponding strength of hand is needed in holding the chin firmly so as to insure pressure without movement of the jaw. Such exercises in many cases may be continued for a year or two. It is often useful to have these exercises along with other gymnastic teaching so as to obtain the pupil's best energy. The principal means at our disposal for stimulating the growth of a bone is by exercising the muscles attached thereto. I do not know of any more feasible plan of encouraging growth of the sphenoid and the development of a wider pharynx than the exercises described.

After adenoid operation it is desirable to train the child to breathe through the nose with the lips closed, but breathing exercises are also needed, especially for the feeble-minded. The child must be made to perform each of the movements of inspiration separately as well as to "breathe deeply." Here again I like daily exercises by the teacher as well as in the gymnasium. Movements of the chest should be made in three directions. With hands placed vertically on the front of the chest the teacher may tell the pupil to lift them up, feeling at the same time that the ribs are raised, and not be satisfied with a little hardening of the pectoral muscles. Then placing her hands so as to grasp the sides of the chest direct that they shall be moved outwards, causing lateral expansion. Lastly, getting the special uplifting of the first two ribs which can be felt under the collar bones, and move more freely than the lower ones. The diaphragm seems to be very little used by many feeble-minded children: to exercise this muscle let the pupil stand straight against a wall, and with a hand placed flat over the abdomen be told to press it forward in breathing. Excellent breathing exercises have been described by many writers, but the movements given are useful with all defective children.

The post-adenoid operation cases I have had to treat were mostly children, more or less feeble-minded, who require a great deal of training of the whole nerve-muscular system before good action is obtainable in hard muscular work. Organised lessons must be given daily in making coördinated movements, such as moving the eyes to look at what is shown, and in imitation at sight of teacher's hand and finger exercises made slowly and with precision as well as when told to perform them. Imitation of lip movements may be taught later. The "movement" must be learnt and practised before the action produces much muscle tension. This may be illustrated by exercises employed to strengthen the weak finger power so common in the defective child from want of development of the intrinsic muscles of the hand—viz., the interossei, lumbricals, and the thenar and hypothenar groups. First use exercises to control the movement produced by these muscles, later bring them into tension by making passive resistance to the finger movement with elastic bands, the use of weights, &c., which causes the muscles to harden. All this is useful mental training, producing coördination, good movements in response, and growth.

Small-headed children are often short, slightly built, and much under weight, consequently there is a less amount of physical work done when they move their limbs and walk than with others of normal growth. I usually begin muscular training by making the child lift weights in the hand, substituting ½-lb. wooden bricks for toy ones; let him carry books, bags of stones, &c., and in other ways produce muscular exercise as well as coördinated movements; thus we increase energy and voluntary power—it is often surprising to see how much hard work these children can do. Such muscular training continued systematically for two or three years affords the best stimulus I know of in promoting growth of brain and skull; in some cases the head circumference has grown from 18¾ inches at six years to 20 inches at nine years with corresponding growth of the pharynx and marked development of brain power.

London Hospital.

ON A FATAL CASE OF PELLAGRA IN AN INSANE PATIENT.

BY F. E. RAINSFORD, M.D. DUB.,
MEDICAL SUPERINTENDENT, STEWART INSTITUTION FOR IMBECILE CHILDREN AND HOSPITAL FOR MENTAL DISEASES, CHAPELIZOD, CO. DUBLIN.

THE case which I am about to report is interesting, inasmuch as it is, I think, the first recorded case of this disease in Ireland. Attention has recently been directed to the occurrence of cases of this disease in asylums in England, and it is owing to the information afforded by these reports that I was enabled to recognise the case in question.

The patient, a widow, aged about 70 years, was admitted to the Stewart Institution on July 3rd, 1913. The history given was that she had led rather a hard life, having been deserted by her husband early in her married life when in good circumstances, and had to bring up a young family with very limited means. She first broke down mentally in August, 1912, and was sent to a private asylum in September of that year, where she remained till May, 1913. She was then taken to her daughter's house, but there got very restless and excited and was inclined to wander. She developed delusions mainly of danger affecting her relatives, and finally got so bad that she was put under my care. On admission she was noted to be a woman of frail physique and worn aspect, and looking older than her years. Her bodily organs were healthy and she took nourishment well. Her mental condition was generally one of confusion and dementia. She talked vaguely of the Germans and of the German Emperor, whom she thought was coming over to see her; of a green purse that had gone to heaven, and so forth. She settled down quietly for some days and seemed to improve, but on July 8th she got very restless and talked vaguely of lions, bears, and tigers, which frightened her. The next day she was much distressed, saying that a great gunpowder explosion had occurred near and she feared it had damaged her house and children; that the Germans had landed and that wagons of ammunition and cannons had gone along the road. Later she thought the house was going on fire and she tried to get out of the window. She was given trional, 20 gr. at bedtime, on one occasion and soon quieted down, and is noted on August 2nd to be much quieter and to be eating and sleeping well.

In or about the middle of August my attention was drawn to an erythematous rash of a crescentic shape situated in the middle of the forehead extending from the roots of the hair downwards, about 1½ inches in breadth at its widest part. It exactly resembled an acute sunburn, but the limited area affected negatived that in my mind. I confess I gave it little attention beyond directing the application of an emollient ointment. In a few days the hands became acutely inflamed, red and swollen, the inflammatory process involving all the backs of the hands and the wrists. They soon began to desquamate and got hard and scaly. The portion of the forehead first affected soon healed up, the healing process being accompanied by slight branny desquamation, the surface being coarse, harsh, and dry. Some small patches of inflammation were noticed in the angle of either eye and just below the margin of the lower eyelids. These latter patches never desquamated to any extent. On August 26th vomiting and diarrhœa were reported, which continued till the 30th, when treatment succeeded in checking both these symptoms.

Notwithstanding, the patient got rapidly worse, and on Sept. 2nd I note that she is "drowsy and dull, disinclined to eat, swallows with difficulty, and is in a semi-stuporose condition from which it is difficult to arouse her." On the 3rd muscular twitchings were noted and a tendency to stertor, so that I feared she would get an attack of cerebral hæmorrhage. The knee-jerks were absent and there was a general languor and prostration out of all proportion to the symptoms. Up to this I had not recognised the true nature of her affection, but an article which appeared in THE LANCET of Sept. 6th made it clear to me that I had to deal with a case of pellagra. I then asked Professor Walter Smith – our consulting physician—to see the case, and he agreed with me in regarding it as a case of pellagra. Dr. T. G. Moorhead, who also saw the case, concurred in the diagnosis. The patient rapidly got worse and died on Sept. 11th.

Just before her death my assistant, Dr. Kenneth Drury, kindly took some photographs to show the condition of her hands, but owing to the patient's very weak state and the deficient light in the room they are not very instructive. The condition of the hand just before death may be described as follows: colour purplish-brown, continuously affected on the extensor aspects, there being no patches of healthy skin; ends of fingers from roots of nails not affected (this is also noted in Dr. Cole's case). The skin feels rough and scaly, and there are patches of pigmentation, most marked on the wrists, deeper towards the carpal bones, and fading off as it extends towards the arm. The patch on the forehead, which had almost healed up before death, showed but little pigmentation, but there were isolated patches of dried-up secretion of a deep amber colour. There was never any œdema, and as far as could be ascertained the condition was painless.

It is abundantly clear that if we are to regard this as a case of pellagra we shall have to modify or completely re-arrange all the old teaching as to this disease. Dr. G. S. Blandy, of Napsbury Asylum, in THE LANCET of Sept. 6th, describes 11 cases of this condition, and Dr. J. W. E. Cole in the same issue describes a case in Bethnal House Asylum. In THE LANCET of Oct. 18th Dr. Emma M. Johnstone records three cases in the Holloway Sanatorium. All the cases recorded occurred in females, and in most instances their general health was poor. Most of them occurred in a year in which the heat was abnormal, though in most cases those affected were not exposed to the sun's rays. It is further interesting to note that all the cases so far recorded in England occurred in the insane. None of those affected seemed to have had maize as an article of diet. Dr. L. W. Sambon, who is investigating the disease, will doubtless in time be able to shed some light on this point, but so far the causation remains obscure.

THE USE OF VACCINES GRADUATED BY THEIR OPACITY.

BY LEWIS C. BRUCE, M.D. EDIN., F.R.C.P. EDIN.,
PHYSICIAN TO, AND SUPERINTENDENT OF, PERTH DISTRICT ASYLUM, MURTHLY.

For several years in the ordinary medical practice of the Perth District Asylum I have been in the habit of preparing the necessary vaccines for the treatment of certain bacterial diseases and of graduating them by the method of counting the organisms. The results were satisfactory, but the labour was considerable. Latterly I have graduated the vaccines by their opacity; the results of treatment have been equally satisfactory, and the labour has been reduced to a minimum.

My method is to grow the cultures on agar, blood agar, &c., and to make an emulsion of the growth with normal saline. The emulsion is then placed in a 5/8th in. test-tube and diluted with normal saline until is is possible to read clearly certain type through the medium of the tube containing the emulsion. The type I employ as a meter is the ordinary type of Muir and Ritchie's Handbook. The vaccine is then sterilised by heat or it is sterilised by chloroform or by ether. Satisfactory results were obtained by all three methods of sterilisation. If the vaccine is to be used by myself I use it in the above density, making the initial dose in every case 0·1 c.c. If the vaccine is to be used by a general practitioner I dilute the original emulsion to 2½ or 5 volumes, and the dose will then be either 0·25 or 0·5 c.c. Subsequent doses can be increased or diminished according to the reaction obtained from the first injection.

In giving the injections in nervous patients I have found it useful to spray the skin at the point of the intended puncture with ethyl chloride. It is unnecessary to freeze the skin; the intense cold produced by a few seconds' application of the anæsthetic is sufficient to deaden completely the pain of the puncture.

I append a list of the results in 88 cases treated by vaccines graduated in the manner above described

Cases	Disease	Infection	Remarks
1 to 30	Boils recurrent and multiple	Staphylococcus aureus	26 cases after two injections had no recurrences Two relapsed but after two more injections recovered Two improved but had frequent recurrences of boils immunity induced by further injections of temporary nature
31	Carbuncle of neck	"	No benefit from vaccine The patient died from septicæmia
32	Carbuncle of back	"	Marked improvement after one injection
33 to 37	Impetigo contagiosa	"	Four cases free after two injections 1 relapsed but on reinjection recovered Fifth case showed only temporary improvement to repeated injections
38	Eczema of back of both hands.	Streptococcus	For 3 years attacks recurred in spring and autumn Two injections removed the condition no recurrence for 3 years
39 to 41	Malignant endocarditis	"	No improvement as the result of injections
42	Chronic bronchitis	Micrococcus catarrhalis	Improvement but not recovery after two injections
43 to 50	Acute nasal catarrh	"	Marked relief and an average of 3 months immunity after from one to three injections
51 to 52	"	Pneumococcus	Marked relief in both after one injection
53	Chronic nasal catarrh of several years standing	Mixed micrococcus catarrhalis and bacillus prodigiosus	No benefit after repeated injections
54	Chronic nasal catarrh two years complicated by asthma	Mixed micrococcus catarrhalis and bacillus septicus	No benefit after repeated injections
56 to 67	Chronic nasal catarrhs one year and one month	Micrococcus catarrhalis	Relief and recovery after from two to three injections in 10 No temporary or permanent benefit in the remaining 2 cases
63 to 70	Cystitis	Streptococcus	Recovery after two injections
71 to 75		Bacillus coli	Recovery after from three to five injections
76	Cystitis with symptoms of pyelitis	"	After one injection temperature fell from 103° to 101° F Recovery after two further injections
77 to 79	Conjunctivitis with blepharitis (chronic)	Staphylococcus aureus	Relief after two injections lids remaining red and thickened
80	Conjunctivitis recurrent	Bacillus (?)	One injection relieved symptoms after two injections inflammation disappeared and no recurrence
81	Chronic sinus of knee-joint after tuberculous disease	Staphylococcus aureus	The sinus healed after two injections
82 to 85	Chronic sinuses suppurating glands of neck		In 2 sinuses healed after one injection 2 healed but broke down requiring surgical treatment
86	Chronic otitis media with frequently recurring abscesses	Bacillus (?)	Marked relief after two injections Patient passed out of my care
87	Chronic sinus after removal of mastoid	Staphylococcus aureus	After six injections sinus healed has remained so over a year
88	Chronic ulcer of hand the result of post-mortem infection	Streptococcus	Two injections removed a condition which lasted 3 months resisting all local treatment

Murthly

LATIN-AMERICAN MEDICAL CONGRESS —This Congress held in Lima in November was attended by a large number of eminent members of the profession representing Argentina Brazil Chili Paraguay Uruguay and of course Peru and was a very successful meeting The members were publicly entertained by the President of the Peruvian Republic Mr Billinghurst and many papers of great [illegible] amongst others pub[illegible] by [illegible] me[illegible]

CANCER OF THE TONGUE AND LARYNX REMOVED BY OPERATION

BY W S KERR M B, C M EDIN, F R C S EDIN,
SURGEON TO THE EAR AND THROAT DEPARTMENT OF THE SHEFFIELD ROYAL INFIRMARY

THE desirability or otherwise of performing extensive and mutilating operations for cancer of the tongue and larynx is a question which invariably taxes the judgment of those who are called upon to treat the condition and it constitutes my reason for publishing the following case

The patient, a man aged 45 had suffered from painful deglutition pain in the ears hoarseness and rapid loss of weight and strength for about three months His mouth and throat were very intolerant of examination either by the indirect or direct method, but the epiglottis could be seen as a fungating ulcerating mass with a broad ulcerated base involving the root of the tongue and the superior aperture of the larynx A small portion removed by punch forceps was pronounced to be definitely epitheliomatous No enlarged glands could be palpated in the neck The condition, together with the reasons for and against operation were explained to the patient, and he decided for operation

The mouth and teeth were carefully cleansed for several days before the operation, which was performed on Sept 8th, 1913 A tracheotomy through the tied and divided thyroid isthmus was first performed and a Hahn s tube introduced Both external carotids with their superior thyroid and lingual branches were ligatured through the usual incisions The attachments of the tongue to the floor of the mouth were then divided by scissors down to the hyoid bone which was divided in the middle line and the halves widely separated The front and sides of the larynx and thyro hyoid membrane had been previously cleared, the incision being carried up above the hyoid into the floor of the mouth The tongue was brought out through this incision and the consequent free exposure of the superior aperture of the larynx showed an infiltrating growth especially affecting the right side of the larynx The cords were healthy The mucous membrane of the pharynx was divided transversely at the upper border of the cricoid and the tongue and larynx above the cricoid were removed in one mass The cricoid was left in position as it made an admirable opening for stitching to the skin of the neck The hæmorrhage during the operation was practically *nil* The mucous membrane on the posterior surface of the cricoid was freed and stitched up to the remains of the structures in the floor of the mouth An œsophageal tube was passed and left *in situ* The wound in the neck was left open the tracheotomy tube being removed

The patient did well for a few days taking his food through the tube and getting a fair amount of sleep Unfortunately the mouth became septic and subsequently [illegible] the neck [illegible] pneumonia supervened [illegible] tenth day after [illegible] was returned to the [illegible] inconvenience

Complete [illegible] would probably [illegible] and I [illegible] future [illegible] in the [illegible] of s[illegible] no other reason. The condition of such patients, even should the operation prove successful, is certainly far from enviable, but, in the absence of power to provide an euthanasia, it is preferable to their pitiful plight if nothing is done.

The absence of hæmorrhage by means of ligature of the external carotids and their branches makes the operation a comparatively easy one. The complete cutting off of the blood-supply, however, favours the supervention of sepsis, and probably a less heroic method of obtaining a dry operation field, such as by a temporary ligature, might be more desirable.

Possibly the retention of the cricoid cartilage was a mistake, as it left the tracheal opening high up in the neck and favoured the entrance of septic discharges. Dr. Dan McKenzie's plan of closing the cut end of the trachea by sutures and leaving the tracheotomy tube *in situ* for some days would undoubtedly have been preferable, and had I had the good fortune to have seen, before operation, the description of his case of laryngectomy in the September number of the *Journal of Laryngology*, I should have adopted it.

Sheffield.

THE REPAIR OF THE FLEXOR TENDONS OF THE HAND: A REVISED TECHNIQUE.

BY C. MAX PAGE, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO OUT-PATIENTS, VICTORIA HOSPITAL FOR CHILDREN; DEMONSTRATOR OF ANATOMY, ST. THOMAS'S HOSPITAL.

ACCIDENTAL division of one or more of the flexor tendons of the hand is a not uncommon occurrence. Spontaneous healing is rare—in fact, it may be taken as a rule that after complete division surgical interference is necessary if a satisfactory result is to be obtained. In my opinion the average final results of such procedures are not as good as might be wished for. I base this statement on the experience of some 20 cases which have come under my treatment, and on the observations on a much larger number which I have seen in the casualty department of St. Thomas's Hospital. Primary union is by no means the rule. Even if satisfactory healing of the cut surfaces of the tendon results free movement is frequently hindered by adhesions of the scar; and the extensive division of the theca, which is often necessary in order to bring to the surface the proximal divided end, subsequently interferes with the proper transmission of power. After such treatment the tendon springs forward when it comes into action, as its bearing surface is only a layer of fibrous tissue lying just below the skin, instead of being the firm synovial lined theca. The worst results are, I think, seen in the case of the thumb. This is particularly unfortunate for the patient, as a full control of the single flexor tendon of this digit is of the utmost importance in any action of the hand.

The factors which are concerned in the production of unsatisfactory results may be grouped under two general heads—viz., (1) Failure of primary union between the cut ends of the tendon; and (2) incomplete restoration of function in spite of union of the tendon.

1. The failure of union may be due to—(*a*) *Inadequate fixation of the divided ends*—in children especially the frailty of the tendon often renders satisfactory suture by the usual methods very difficult. (*b*) *Infection of the wound*—if any degree of suppuration take place the suturing will almost certainly give way. (*c*) *Too early mobilisation of the injured part*—firm union between the divided ends of tendon in normal cases, according to Betzow,[1] is complete in 60 days, though some post-mortem examinations of Adams[2] prove that fairly firm union is present in about 20 days. Seggel[3] states that complete conversion into tendinous tissue does not take place under 90 days. (*d*) *Undue injury of the theca.* If the latter is extensively laid open to expose the tendon, as may be necessary in cases of late suture, resuture of it will be found impossible. The tendon springs forward, and, instead of being surrounded by synovial sheath, is mainly in contact with the subcutaneous tissues. Such a state of affairs greatly hinders proper repair, for union of the divided ends of a tendon is assisted by the activity of the inner layer of the theca.[4]

2. *Incomplete restoration of function.*—In a certain number of cases, though union of the divided ends has occurred, the action of the tendon is weak or imperfect. Sometimes this is due to the formation of adhesions between the tendon and surrounding structures, and if this is the cause mobilisation under gas and subsequent exercises may effect a cure. If, however, the theca was divided in its long axis to any extent at the operation, the weakness may be a permanent one, due to the forward displacement of the tendon when it comes into action. No doubt irregularities in the surface of the tendon and in the new-formed theca, which at first limit movement, in course of time become smoothed out.

A *résumé* of some of the anatomical points in the region is desirable before describing the technique which I advocate.

The Tendons of the Fingers.

The two flexor tendons of each finger are enclosed in a firm fibrous tissue sheath, the theca, lined by vascular synovial membrane. The theca extends from the head of the metacarpal bones to the base of the terminal phalanx; it is attached marginally to the edges of the phalanges and the lateral part of the glenoid ligaments of the interphalangeal joints. The theca is particularly strong opposite the shaft of each phalanx and thin over the articulations. The sublimis tendon, lying most anterior, divides about the middle of the proximal phalanx, embraces the profundus tendon, and unites again behind it at a level of the proximal joint, and is inserted into the middle of the anterior surface of the middle phalanx. Both tendons are covered by the thin peritenonium, which is continuous with the synovial lining of the theca at the points of insertion of the tendon, and is also connected with it by the delicate vincula accessoria. Of these vincula there are two types, brevia and longa. The arrangement of these vincula is illustrated in the diagram. (Fig. 1.) The two long thin ones have some control of the retraction of the tendons when the latter are divided distal to the vincula. The vinculum longum of the profundus tendon is absent in about 1 case in 10; it passes at the level of the proximal interphalangeal joint from the ventral surface of the profundus tendon between the split sublimis tendon, being attached to the latter and passing on to the theca. Two paired vincula longa usually pass from the sublimis tendon, just after it has divided, to pass direct to the sides of the theca. In the palm the two flexors for each finger lie superimposed, the sublimis being superficial; they are covered by the palmar fascia. The digital vessels and nerves lie laterally in the spaces between the tendons. The tendons are nearest the surface just proximal to the head of the metacarpal bones, subcutaneous tissue and the thin expansion of the palmar fascia here alone covering them. The superficial palmar arch crosses them at a level corresponding with the middle of the metacarpal bones.

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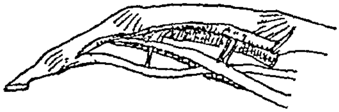
[1] [illegible] Regeneration der Sehnen, Archiv fur [illegible] 383.

[2] [illegible] Process in Human Tendon after Subcutaneous Division, Proceedings of the Royal Medical and Chirurgical Society, London, 1860.

[3] Seggel: Histologische Untersuchungen über die Heilung in Sehnenwunden und Sehnendefekten, Beiträge zur Klinischen Chirurgie, 37, 1903.

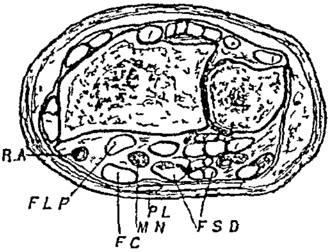
[4] Marchand: Der Process der Wundheilung, Deutsche Chirurgie, Lieferung 16, 1901; and Busse: Zeitschrift für Chirurgie, 33, 1892.

FIG 1



Sketch showing typical arrangement of the vincula accessoria to the two flexor tendons.

FIG 2



Section taken
of the flexor
F L P Flex
M N Median
sublimis digitorum

The Tendon of the Thumb

In the thumb the conditions are markedly different. The single flexor tendon is contained in a thecal sheath similar to that seen in the fingers; the tendon is inserted into the anterior surface of the base of the terminal phalanx. It usually has only one vinculum accessorium attached close to its insertion; another long slender one may be present opposite the proximal phalanx. In the thenar eminence the tendon passes in a canal very completely covered by the outer group of thenar muscles. The tendon passes beneath the annular ligament and to its outer side; opposite the wrist joint the tendon lies in its own thecal sheath just posterior and slightly to the ulnar side of the tendon of the flexor carpi radialis. In this situation it can always be readily found (Fig 2). From the above considerations it will be seen that in the fingers, if the profundus tendon be divided distal to the proximal interphalangeal joint the muscular end will be prevented from retracting any considerable distance by the vinculum accessorium. If division takes place proximal to this level both tendons may retract well into the palm, though the attachment of the lumbrical muscles to the profundus tendons will tend to limit such a movement. In the thumb if the tendon is divided anywhere proximal to its insertion it can retract very freely, since it has at most a slender vinculum to hold it.

General Principles of Treatment

Taking into consideration the above points, I advocate the following technique with a view to improving the results of operation in this class of case. For the sake of clearness a somewhat dogmatic catalogue of principles may be allowed.

When to operate.—If the wound is an incised one and apparently clean operation should be undertaken within 12 hours of the injury. If the case is seen later the wound should be painted with tincture of iodine and a simple dressing be applied; if on inspection two days later there is no evidence of infection operation may be proceeded with. If the incised wound is suppurating it should be treated on simple lines, the operation being postponed until the skin be soundly healed. In lacerated wounds, seen soon after the injury, whether immediate suture of tendon is undertaken or not, must depend on the degree of injury of the part and the extent to which infective material appears to have been introduced. In any case it will be better to appose the margins of the tear as far as possible and wait till the wound has healed before dealing with the tendons. In cases seen late and when the skin wound has healed completely operation should be undertaken if there is no sign of union in the tendon two or three weeks after the injury.

Cleansing the wound.—When the wound is an open one any foreign matter should be removed with forceps; the whole surface and the surrounding skin is then freely sponged with tincture of iodine. No preliminary washing with water should be allowed.

Recovery of the cut ends of the tendon.—The distal end can always be readily caught without disturbing the theca, flexion of the terminal phalanx being sufficient to bring it into the wound. In regard to the proximal end the degree of retraction varies much and is greater in late than in recent cases, but in whatever situation the tendon may lie a rule should be made never to incise the theca beyond the extent of the primary injury. The cut end of the proximal tendon should be sought for with sinus forceps introduced into the theca through the primary opening; the tendon is made to descend as far as possible towards the wound by flexing the wrist joint and massaging the forearm muscles. If by these means the tendon cannot be caught, it must be picked up through another incision made higher up in the manner described below. To carry out this procedure a flexible bullet probe with an eyehole cut in the bulbous end is required. In the fingers an incision half an inch in length is made directly over the line of the tendon at a level with the neck of the metacarpal bone; after division of skin, subcutaneous tissue and the thin expansion of the palmar fascia the sublimis tendon (lying close over the profundus) will be found very near the surface. The theca (in this situation frail and thin) is opened and the divided tendon or tendons are drawn out through the wound; the bulbous end of the probe is then passed from the primary wound through the theca and made to emerge at the secondary opening. A suture is fixed to the cut tendon and threaded through the eye of the probe. The probe is then drawn back and out again at the primary incision bringing the tendon with it.

In the case of the *thumb* a similar procedure is carried out, but the tendon must be picked artery was of normal size but very tortuous. The median nerve and the other concomitant vein lay on the outer side of the artery. The enormously distended vein lay to the inner side of the anastomosis and was pouched below, forming a kind of cæcum. The ulnar nerve ran across this cæcum depressing it and closely adherent to it. Dr. Thornton had admirably depicted the condition found. The parts were cleaned and the artery and vein were clamped separately above and below the anastomosis. Special clamps were not available and Durham's hare-lip clamps were utilised. The little varicosity was divided transversely to its axis, and a little towards the venous side. The opening leading from the artery was then closed by (1) a continuous mattress suture, after the method of Dorrance, taking up all the coats of the artery. A round needle and 000 silk were used. This part of the procedure was difficult because the upper arterial clamp did not completely control the vessel, and small systolic spurts were coming through during the suturing. It was not possible that an anastomosing vessel entered between the clamps as the artery was fully cleaned. (2) By an outer row of continuous mattress suture taking up the outer and middle coats. Here the same sized needle and silk were used. The venous orifice was closed by an ordinary continuous suture of 00 catgut. When the clamps were removed both suture lines were found to be blood-tight and the wound was closed. In after-treatment, some morphia was given to relieve anxiety, and to reduce blood pressure, and of course the limb was kept at rest. Mr. Kempe had a note of the man's condition on the day after the operation. His general condition was excellent. His right hand was warm, of good colour, not œdematous, and the right radial pulse was fuller and, in point of time, equal to the left. The subclavicular swelling, thrill, and bruit were absent. His only complaint was of some pricking and tingling pain on the inner side of his hand. They thought this was due to the operative interference with his ulnar nerve. He was allowed up at the end of a fortnight, and then his pulse became rapid, weak, and irregular, and his heart enlarged. He seemed to have some cardiac dilatation. The right pulse became weaker than the left, but at no time was there any sign of embolism, nor did the hand become cold or œdematous. A few days in bed improved the heart condition, and he left the hospital apparently well. He came up to report himself a fortnight later, and said he was quite well but for the tingling pain on the inner side of his hand. His pulse was still rapid (96) The right radial pulse was appreciably weaker than the left. A sphygmomanometer gave a systolic pressure of 120 mm in the right arm and of 140 mm. in the left. It seemed possible that laminated fibrin had been laid down over the arterial suture, either closing the artery completely or considerably throttling it.

Mr. V. Z. **COPE** read a paper on the Early Diagnosis and Treatment of Ruptured Intestine, which will be published in full in THE LANCET.

Mr. **RAYMOND JOHNSON** recounted statistics which he had been able to compile from the records of 12 London hospitals for the years 1908–1912 inclusive. There had been 44 cases of ruptured intestine in all; 35 had died and 9 recovered After operation 9 had recovered and 21 died, whilst the remaining 14 died without operation. The sites of rupture were as follows: duodenum, 5; jejunum, 22; ileum, 13; small intestine (? site), 1; hepatic colon, 1; rectum, 1. The symptoms which occurred were abdominal pain, with or without tenderness in 21; abdominal rigidity in 16; vomiting in 14; marked shock in 13; increasing pulse-rate in 11; bruising of the abdominal wall in 9; dulness in one or both flanks in 9; diminution or loss of liver dulness in only 4. Irrigation was mentioned as having been performed in only one successful case, but in seven or eight of the unsuccessful cases.

Mr. H. **BETHAM ROBINSON** described a case of Endothelioma of the Breast which occurred in a single woman, aged 27, who came under his care in November, 1908. In the preceding August she had first noticed a lump in the right breast, which had gradually got larger without any pain or inconvenience. Examination showed two hard nodular masses just above the nipple, one in the outer and the other in the inner quadrant, both fairly well defined yet loosely connected with each other. The skin was quite free except over the outer part, and the gland was not fixed to the deep tissues. There were three hard discrete glands in the right axilla. The condition seemed to be carcinomatous, and the breast was freely removed and the axilla cleared. The growth on section was of a pinkish colour, granular-looking, and did not cup; it was rather sharply defined from the surrounding tissue, which appeared unduly fibrous. Histological examination showed that the most distinctive feature was the appearance of more or less rounded cell masses enclosed in a fibrous connective tissue framework especially dense at the margin to form a sort of capsule. The cells composing the masses were somewhat variable in shape, with deeply staining nuclei and plenty of cell protoplasm. In most of the masses were rounded or oval spaces with a sharply defined margin, and in many of these was to be found a fibrinous coagulum with some entangled leucocytes; round the spaces the cells tended to radiate in columns. None of the clefts were well-formed vessels, and in none of them were red blood discs to be seen. There had been no recurrence in a period of over five years. The tumour was considered to be an endothelioma starting in lymphatics. Attention was drawn to the apparent rarity of this form of breast tumour, but Mr. Robinson considered that many tumours difficult of interpretation, if more critically examined, would probably fall into this group Its apparent low rate of malignancy was commented upon. Another tumour was referred to, and the specimen shown, which was removed from a lady in December, 1904; this up to date had also not recurred. It was much of the same type as the former, only histological investigation showed that it was a perivascular endothelioma (perithelioma).

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Specimens.—Primary Cancer of Bartholin's Gland.—Pre eclampsia.—Cæsarean Myomectomy.—Relation of Syphilis to the Uterus.—Fœtus Acardiacus Amorphus.

A MEETING of this section was held on Dec 4th, Dr. W. S. A. **GRIFFITH**, the President, being in the chair.

The following specimens were shown:—

Mr. **ALBAN DORAN**: An Occluded Vagina after Total Hysterectomy.

Mr. J. D. **MALCOLM**: Sloughing Fibroid with Complete Inversion of the Uterus.

Mr. G. G. **ALDERSON**: Chrobak's Instrument for Embryotomy.

Mr. **WILBERFORCE SMITH**: Epidiascope Demonstration of Altmann's Granules in Tissues at Point of Invasion by Squamous Carcinoma of the Uterus.

Mr. S. **GORDON LUKER**: Hydatidiform Mole and Normal Ovum in Twin Pregnancy.

Dr. **HERBERT SPENCER** read notes of a case of Primary Carcinoma of Bartholin's gland which he had removed, with the superficial inguinal (carcinomatous) glands, on March 3rd, 1912, the patient being well and free from recurrence on Oct. 21st, 1913. A section through the growth and duct (which was unaffected) showed it to be an adeno-carcinoma with degeneration of the cells, causing it to resemble squamous carcinoma. The disease was very rare, half the cases occurring over 50 years of age. The two sides were affected with equal frequency. The relation of the disease to gonorrhœa and inflammation was discussed and a short clinical history of the disease was given.—Remarks were made by Dr. T. W. **EDEN** and Dr. H. **RUSSELL ANDREWS**.—The specimen was referred to the Pathology Committee of the section.

Dr. **VICTOR BONNEY** reported two cases. In the first, a primigravida, 24 weeks pregnant, was suddenly seized with symptoms of acute [illegible]. The urine was diminished and contained albumin and blood. Jaundice and rapid loss of sight occurred Immediate evacuation of the uterus was effected by performing abdominal Cæsarean section. The toxæmic symptoms disappeared within two days and the patient made a rapid recovery. The second case was that of a primigravida whose uterus was the seat of six large fibroids. Cæsarean section was performed at term and after delivery the tumours were enucleated. The largest was of the size of a melon and was submucous in position. This operation, which [illegible] myomectomy, should be the operation of [illegible] by fibroids in which the uterus was uninfected, for pregnancy in a fibroid uterus proved the functional value of the organ.

Moreover, the retractile state of the musculature was peculiarly favourable for enucleation.—Remarks were made by Dr. H. WILLIAMSON, Dr. AMAND ROUTH, Dr. G. BLACKER, the PRESIDENT, Dr. R. D. MAXWELL, and Dr. EDEN.

Mr. H. BECKWITH WHITEHOUSE (Birmingham) in a paper on the Relation of Syphilis to the Uterus pointed out that the occurrence in the uterus of lesions the result of syphilitic infection had long been regarded as extremely rare, and very little had been written upon the subject. If it was true that the corpus uteri possessed a definite immunity to the ravages of the spirochæta pallida it was of considerable interest, especially as the relationship was so intimate in connexion with placental and fœtal syphilis. But he considered rather that syphilitic lesions of the uterus had been *overlooked in the past. In 1912 he had suggested that the* underlying pathological factor in some cases of chronic metritis and fibrosis uteri might be syphilis. He had since investigated by the Wassermann reaction 16 patients with a clinical diagnosis of this nature, seven of whom showed a well-marked positive reaction, although only one gave other evidence of direct syphilitic infection. In three it was necessary to remove the uterus on account of severe hæmorrhage. The uteri from these cases all showed well-marked fibrosis and peri- or endarteritis of the vessels. The pathological picture coincided with the appearances seen in interstitial myocarditis, orchitis, hepatic cirrhosis and other indurative conditions generally considered due to syphilis. Why, in the case of the uterus, therefore, was it necessary to call for other factors such as septic inflammation, repeated pregnancy, &c., to account for an exactly similar lesion, especially when the Wassermann test showed that a certain proportion of such patients were undoubtedly infected. He pointed out that some cases of pyometra unassociated with malignant disease appeared to bear a distinct relation to syphilis. Specimens from five cases of menstrual blood collected through an intra-uterine catheter during the secondary stage of syphilis showed in two cases the intracellular bodies described by McDonagh and Ross. The presence of such bodies in the menstrual discharge proved a possible source of infection to the uterine tissues through which they passed. The spirochæta pallida had not yet been demonstrated in the menstrual blood.—Remarks were made by the PRESIDENT, Dr. ROUTH, and Dr. BLACKER.

Dr. M. J. STEWART (Leeds) introduced a case of Fœtus Acardiacus Amorphus. He gave an account of a typical example of the fœtus acardiacus amorphus (with drawings and radiographs). The specimen consisted of a trunk-like mass without head or limbs, to the flattened ventral aspect of which the umbilical cord was attached. Radiographic examination showed a vertebral column of 18 segments, to the upper seven of which ribs were attached. Posteriorly the pelvis was represented by two bones on each side, but of limb bones there was not the slightest trace. Dissection and microscopic examination showed the presence of liver and bowel, kidneys, ureters, and testes, but heart, lungs, spleen, and adrenals were all absent.—The paper was discussed by the PRESIDENT and Dr. BLACKER.

SECTION OF LARYNGOLOGY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Dec. 5th, Dr. D. R PATERSON, the President, being in the chair. The following exhibits were shown:—

The PRESIDENT: Three foreign bodies, the colour of which made extraction more difficult. (1) Red Seed from Bronchus, (2) Pink Coral Ring, and (3) portion of red vulcanite Toothplate from the gullet.

Dr. G. WILLIAM HILL: 1. *Epidiascope exhibition of* Skiagrams and Diagrams of Pharyngeal Diverticula, including X ray prints of four cases examined by the exhibitor. 2. A patient from whom a Post-cricoidal Pharyngeal Diverticulum was recently removed by operation.—The PRESIDENT remarked on the difficulty usually experienced in finding the [illegible] B. WAGGETT related [illegible] to syringe out their [illegible] D. DAVIS related the *satisfactory post operative history of 5 cases out of* 11 which he had traced, which were chiefly cases operated upon by Butlin.—Mr. HERBERT TILLEY, Mr. T. B. LAYTON, Mr. H. W. FITZGERALD POWELL, Mr. NORMAN PATTERSON, and Dr. J. [illegible]

Mr. [illegible] MARTI[illegible] pharynx treated by radium or radium emanations.—The cases were discussed by the PRESIDENT, Dr. P. WATSON-WILLIAMS, Mr. WAGGETT, Mr. C. W. M. HOPE, and Dr. W. JOBSON [illegible] Dr. HILL also took part in the discussion, and Mr. W. D. HARMER stated that [illegible] at a later date.—Mr. [illegible] and Mr. TILLEY rema[illegible] nt.

[illegible] Paralysis.

Mr. A. J. M. WRIGHT Specimen of a Thyroglossal Cyst causing dyspnœa in a woman aged 54.

Mr. G. POTTS. Laryngeal case for diagnosis in a man, aged 45, who had hoarseness for five years, a swelling over the right side of thyroid cartilage for one year, and a laryngeal swelling which obscured the rima glottidis. Sterile pus had been withdrawn by exploratory puncture.—Dr. DUNDAS GRANT and Mr. HAROLD BARWELL suggested that it was a case of tuberculous perichondritis.

Dr. J. DONELAN: 1. Vertical and horizontal gripping *forceps for use in various tonsil operations. 2. A combined* septal resector, comprising knife, with straight and curved instruments for raising the muco-perichondrium.

Mr. E. A. PETERS: 1. Case of Polycythæmia rubra. 2. Infiltration of both vocal cords; deflected septum.—Dr. JOBSON HORNE and the PRESIDENT thought that benefit would occur when the nasal obstruction was removed.—Sir STCLAIR THOMSON suggested that it might be a case of early tuberculous laryngitis.

Mr. H. D. GILLIES: Case of swelling on the left vocal cord for diagnosis in a man, aged 50, who became suddenly hoarse in March, 1913, after singing.—Dr. JOBSON HORNE thought the swelling was benign.—Sir FELIX SEMON related a similar case which was observed for 18 months, and then was proved by operation to be malignant.—Mr. W. HARRISON also discussed the case.

Mr NORMAN PATTERSON: Epithelioma of Soft Palate, which had undergone three operations and was now undergoing X ray treatment. (Specimen and microscopical section were shown.)

Mr. THOMAS GUTHRIE: Tooth plates and meat-bones removed from the œsophagus, together with radiograms by Mr. C. Thurstan Holland.

Mr. G. H. L. WHALE: Trauma from adenoid operation in a child who now showed a trellis-work of adhesions between the Eustachian tube and pharyngeal roof.—Mr. PETERS thought the result was probably due to injury from the finger nail operation.—Dr. JOBSON HORNE and Sir STCLAIR THOMSON thought that the adhesions were not due to faulty technique.—Mr. NORMAN PATTERSON related several similar cases.—Dr. DUNDAS GRANT suggested that faulty involution was the cause.

Dr. W. H. JEWELL: Aphonia in a boy, aged 11, with chronic rhinitis.

Dr. F. W. BENNETT: A case of Ulceration of the Fauces.—Sir STCLAIR THOMSON suggested pemphigus or tuberculosis.—Mr. TILLEY thought it was tuberculosis because of the suggestive appearance of the larynx.

Mr. TILLEY: Swelling of the Palate, which extended to the parotid region of the same side (left).—Mr. LAYTON thought the swelling to be cystic.—Mr. TILLEY said he intended treating this case with radium.

Mr. CECIL I. GRAHAM: Carcinoma of Party Wall, after laryngectomy in 1910, shown before the section in 1911, with recurrence in the scar three and a half years after the primary operation.

Dr. ANDREW WYLIE: A case of Chronic Laryngitis in an unusual form.

Mr. BARWELL: 1. Nasal Obstruction from a polypoid mass in a girl aged 15. 2. Fungating Mass in Right Tonsil in a boy aged 16. A microscopical section would be made to determine the diagnosis of this case, which presented unusual features.

Mr. PATRICK DEMPSEY: Specimen of Œsophageal Diverticulum removed by operation three years ago.

Mr. LAYTON: Subglottic Swelling in a man aged 40.

SECTION OF ANÆSTHETICS.

Fatalities Occurring during Anæsthesia.

A MEETING of this section was held on Dec. 5th, Dr. J. BLUMFELD, the President, being in the chair.

Mr. A. L. FLEMMING read a paper on Fatalities occurring during Anæsthesia, as reported in the lay press from 1910–1913. He regretted that the results and figures could not be of great scientific value, as so many of the reports were very meagre in detail, and proceeded to point out that the present system of inquiry into these matters by coroner and jury was useless both from a medical and legal point of view. Most of the fatalities had occurred, so far as he could discover, when the anæsthetic was being given by men who had no special experience in the administration, and he urged the teachers to remember that very often the student learnt from observation, and that when he saw experts giving chloroform with ease and without accidents occurring he was apt to think the administration easier and safer than it really was. He (Mr. Flemming), therefore, urged teachers to impress on the student that ether was the anæsthetic for the inexperienced and that chloroform should be left to the skilled and expert man. He said that a large proportion of the fatalities appeared to have been due to the selection of the wrong anæsthetic for the particular case, and gave as an instance the administration of nitrous oxide to a patient suffering from angina Ludovici. He further pointed out that a considerable number of deaths had occurred before the operation had started, and in almost all of these cases the anæsthetic used for induction was chloroform and the patients had died in the struggling stage. This, he maintained, showed clearly that it was better and safer to induce anæsthesia either with gas and ether or ether rather than with chloroform.

Sir FREDERIC HEWITT said that he took a keen interest in Mr. Flemming's paper because it clearly demonstrated the pressing need of certain reforms in regard to deaths connected with anæsthetics. It was simply appalling that so little notice was taken of the unnecessary wastage of human life, which so often occurred. Whilst it could not be denied that many of these fatalities were unavoidable, he (the speaker) had no doubt in his own mind that in a large number of the cases, possibly in the great majority, life might easily have been saved had the proper anæsthetic been used and the administration been conducted by an experienced administrator. Mr. Flemming's statistics lent great weight to the contention lately put forward by Dr. W. A. Brend that the coroner's court, as at present constituted, was not only useless but harmful when it essayed to inquire into deaths connected with anæsthetics. It was little short of a farce for coroners' juries to express views as to how and why patients died during surgical anæsthesia. It was the duty of the medical profession to combine and to urge the introduction of some kind of private inquiry as a substitute for the present coroner's inquest. Such an inquiry should be conducted by a trained medical man, with or without an expert assessor. The present system was useless because the information asked for and obtained was not useful for scientific and statistical purposes; it was harmful because it inflicted unnecessary pain and discredit upon the relatives of the deceased and the medical practitioner One of the recommendations of the Home Office departmental committee, appointed a few years ago to consider, *inter alia*, the administration of anæsthetics, was to the effect that "a small standing scientific committee on anæsthetics should be instituted under the authority of the Home Office," but this recommendation, like others, has become a dead letter. Such a committee would be most valuable as an intermediary between the private Home Office inquiries on the one hand and the various professional and educational bodies on the other. Amongst the latter bodies he might mention the Section of Anæsthetics he was now addressing, the General Medical Council, and the British Association for the Advancement of Science. He (Sir Frederic Hewitt) was aware that the Royal Society of Medicine, being essentially a scientific body, was disinclined, if not unable, to take any part in the reforms that were needed. But surely the matter was of such moment that the Section of Anæsthetics might, as a scientific body, further the introduction of reforms, and work in conjunction with other bodies to remedy the existing defects in medical practice. The two other bodies to which he had referred, viz., the General Medical Council and the British Association for the Advancement of Science, already had anæsthetics committees. The committee of the General Medical Council, however, as at present constituted, existed only for the purpose of considering any proposals that might be made for legislation. Possibly it might be found practicable for the functions of this committee to be extended so that it might from time to time advise the Council as to what regulations should be issued to the profession in regard to the selection and use of anæsthetics. Similarly, the Anæsthetics Committee of the British Association would also issue reports and recommendations. In this way the Home Office Committee would, on the one hand, be in touch with the General Medical Council, the British Association, and the Royal Society of Medicine; whilst it would, on the other hand, receive the reports and statistics furnished by the private inquiries conducted by its officers upon deaths during anæsthesia. The machinery thus established would be of the utmost importance to the community. There could be no doubt that had ether been used in the great majority of the cases in the opening paper, or had chloroform been administered by the percentage system, many lives would have been saved. Surely there should be some such machinery as that suggested for the guidance of the profession, machinery by which the General Medical Council would issue regulations for the safety of patients during anæsthesia, and by which the Home Office Anæsthetics Committee could obtain reliable statistics as to the frequency of deaths under anæsthetics and other particulars.

Dr. LLEWELYN POWELL dealt with the difficulty of making the student realise the importance of keeping the air-way clear, and thought that probably men preferred to give chloroform as it was easier to give on a mask than to give ether with some of the complicated apparatus in present use.

Dr. A. GOODMAN LEVY touched on the question of auricular fibrillation, and went on to suggest that the section might be able to take up the collecting of reports of anæsthetic fatalities so that a proper record could be made.

Mr. H. E. G. BOYLE commented on the relatively large number of deaths reported under N_2O, and thought that under more ordinary circumstances and with usual care death ought never to occur under N_2O. He alluded to the fact that most of the fatalities had occurred with men who had had a very limited experience of anæsthetics, and felt that it was high time that the public at large realised that they ran a decided risk in allowing themelves to be anæsthetised by inexperienced men. He dealt with the large number of cases that had died before the operation had begun, and in whom $CHCl_3$ had been used to induce anæsthesia. For a long time he had held that it was dangerous to induce with $CHCl_3$, and felt that if anæsthesia was induced with gas and ether, and then continued either with ether or chloroform, the death-rate would sensibly diminish. He felt that cases ought always to be reported, but the coroner and jury system was wrong. Either a board of medical men or anæsthetists to act as advisers to the coroner should be appointed.

SECTION OF PSYCHIATRY.

Exhibition of Cases.

A MEETING of this section was held at the Bethlem Royal Hospital, St. George's Fields, on Dec. 9th, Sir GEORGE H. SAVAGE, the President, being in the chair.

Dr. W. H. B. STODDART, the medical superintendent, showed an interesting series of cases. The first was a middle-aged woman suffering from loss of memory and some paramnesia and peripheral neuritis. It was polyneuritic psychosis, with very severe peripheral nerve disturbance. She had both rectal and vesical difficulty, though probably of mental causation. She was constantly hearing voices. The next case was one of Apraxia in a woman, aged 54, who four months ago had a slight attack of hemiplegia, followed by mild aphasia. She now had ideational inertia on the agnostic side; she would name articles first shown her correctly, but later she could not do so. There was probably either a senile cortical atrophy, or a disturbance and disorder of cerebral vessels. He also exhibited a case of Hypopituitarism in a married woman, aged 69, who was admitted ten months ago with mental confusion and occasional lapses of memory, restlessness, hallucinations of vision, and cutaneous sensations, which latter had now passed off The patient had recently developed thickening of lips and tongue She had an increased capacity for sugar, being able to take 350 grm of dextrose without any being excreted She improved while taking large doses of pituitary extract, but not upon thyroid extract She was mildly depressed but sometimes witty Other cases shown were a girl, aged 18, the subject of Anxiety Neurosis who had shown moral lapses in the direction of lying and stealing, and later became uncontrollable, a married woman, aged 45, the subject of Dementia Paranoides, and a similar one in a single woman, aged 47, who considered a Paris hypnotist responsible for casting a spell over her

Dr **RALPH BROWN** showed a case of Congenital Neurasthenia in a man aged 19 No nervous heredity, but when 9 years of age he received a blow on the head In 1912 he became morbidly introspective and felt he had committed the "unpardonable sin" (blasphemy) He recently threatened suicide

Dr **BROWN** also showed an unusual case of General Paralysis in a man He had a brother an epileptic There were visual and auditory hallucinations, and memory both recent and remote, was poor Knee jerks increased but no other physical signs of general paralysis Lumbar puncture in May showed the cerebro spinal fluid normal Wassermann reaction (both blood and cerebro spinal fluid) negative Speech slow and rather hesitating, with some fibrillary tremor of the tongue He had delusions of a megalo melancholic nature, and auditory hallucinations of a persecutory type There had been no anti syphilitic treatment It was not uncommon for cases of general paralysis to reach an advanced stage with but little abnormality of pupils, but it was less common to find the Wassermann test negative The last patient was a man, aged 23 Six weeks ago he was admitted to the Bethlem Royal Hospital in a maniacal condition The excitement was now diminishing, but the patient was still very exalted and had expansive and grotesque delusions, with auditory and visual hallucinations Memory good and no confusion General health was fair The case was regarded as one of acute mania general paralysis, or dementia præcox of the paranoid type, probably the last

HUNTERIAN SOCIETY.

Migraine

A **MEETING** of this society was held on Nov 26th, Dr W J M **ETTLES** the President, being in the chair

Dr A S **CURRIE** opened a discussion on Migraine He said that nothing worse in the way of poignant suffering could well be imagined than the intense headache photophobia hemianopia, scintillating scotoma and other concomitants of the disease *Hughlings Jackson truly described* migraine as the congener of epilepsy and accepting this view, Dr Currie would classify these maladies in the foll w

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in its phenomena to minor than to major epilepsy There was a striking similarity between the first two in the dreamy states and diplopic mentation often observed in both and *in the after languor which was also present in the major state* Dr Currie gave a series of cases from his note books illustrating the various types of migraine, most of which exhibited the phenomenon of "reminiscence' He also gave family histories of cases of migraine where one or more members of the families suffered from true epilepsy While he had had a large number of cases in women he had also

of "reminiscence' there was a sense of gigantism during the attacks Reference was made to the exciting causes—e g, ocular defects, gout, rheumatism, and defective metabolism For the relief of pain during an attack phenacetin in 15 to 20 grain doses at frequent intervals was found to give greater relief than any other drug "Reminiscence" was a symptom of the condition rarely mentioned in text books or even in monographs on the subject and yet it was a frequent concomitant of the disease From the biography of Charles Dickens it appears that he suffered from "dreamy states," and the description in the character of David Copperfield of his having been on a previous occasion in precisely the same circumstances and environment was doubtless a personal experience of the author's The phenomenon of "reminiscence" was best described as a "mental diplopia" Dr Jackson wrote[1] that there was a close analogy between the visual diplopia of ophthalmologists and mental diplopia In the former with *slight* divergence of the visual axes there was *more* visual confusion, in the latter with a *shallow* dissolution of the highest centres there was *more* mental confusion. Dr Currie suggested that in migrainous reminiscence there was a gradual development from a faint mental picture to a clear cut, definite impression, and that the latter evoked the memory of the former and appeared as a mental diplopia He had noticed a similar phenomenon in regard to auditory impressions Migrainous patients had been observed to sit for some time silent after being questioned, and then without the question having been repeated to awake to the fact that they had been questioned, and return a correct answ

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Mr **SYDNEY STEPHENSON** urged the dependence of many cases of migraine upon eyestrain He considered that the refraction should be corrected as a routine measure in every case of migraine, and he did not think that a practitioner could be said to have consulted the best interests of his patient unless he had taken that step It was very important to understand that relief might often be given by suitable glasses all the more so since the condition could not be said to be definitely or consistently under the influence of any medicament, ancient or modern

Mr C **WRAY** *said he hesitated to assume that he had cured true* migraine by glasses but in over 35 per cent great benefit resulted and the attacks were lessened in number, duration, and severity, even without the use of drug treatment Too much was expected from weak cylinders and far too little from reading glasses to correct weak accommodation, which was not unfrequently present At times young migrainous subjects with lowest grade astigmatism required in addition to the cylinder correction + 0 75 to + 1 25 spherical for reading and close work—a sufficient proof that the accommodation should receive as much attention as the examination of the distant vision In such cases if the patients were poor, it would seem best to try the spheres only for close work and ignore the expensive cylinders, having recourse to them only when the simpler glasses failed The spectacle treatment of migraine should be largely determined by the frequency of the attacks, and it was particularly desirable not to disfigure young females and some men with constant use of glasses when the attacks occurred at long intervals It was doubtful if exact correction with 0 25 cylinders could be made by subjective tests Even a small error in the axis of a cylinder caused a somewhat glaring distortion of plane geometric figures The patient s complaints were too vague to put the average practitioner on the right track, but this so called metamorphopsia was easily detected by directing the patient to notice the sides of the Jaeger type mount A side seen through a wrongly placed cylinder would be at fault, and if the axes for both eyes were wrong and the patient had binocular vision both the right and left sides would be at fault, and the mount would seem too large at the top or the bottom At times this was due to cyclophoria, in which instance the distance cylinder could not be tolerated for reading Occasionally patients were assured the discomfort from the glasses would soon disappear and this was true as the more intelligent ones suppressed the image seen by the more troublesome eye This mostly implied

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enlarged turbinates impinging on the septum At times when an attack subsided rapidly the patient had a sensation as of an obstruction giving way and this was no doubt due to the shrinking of the vascular tissues of the middle turbinate At the patient s first visit the frequency duration, and severity of the attacks should be ascertained also the prodromata and their duration, the behaviour of the stomach during the attack, and the commonest exciting causes. Patients in whom the theatre or similar entertainments caused an attack should take 15 grains of bromide of potassium, one dose before leaving home and a previous one three hours earlier. The drug might be similarly used in cases in which a railway journey precipitated an attack. At times migrainous patients who vomited several hours after drinking beer had an odour of it in the vomit. In such cases the administration of drugs by the mouth was likely to be a failure and illustrated the importance of allowing at least three or four hours to elapse after a meal before having resort to their use. When the patient awoke with premonitions the greatest success was obtained from phenacetin and caffeine. There were many objections to prescribing tablets, but the rarer the attacks the more necessary they became, as it was impossible to keep liquid preparations for an indefinite period. The first step should be to ascertain the tolerance of the patient to the drug. The number ordered should be put into a wineglassful of water and crushed, after which a teaspoonful of spirit should be added. When the patient awoke with distinct premonitions he should take his tablets, go back to bed, and not take any food for at least an hour. The success of this method was very considerable and the efficiency of the drug greatly increased by the addition of the spirit.

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[1] THE LANCET vol ii, 1837, p 870

Mr. REGINALD EVERSHED was of opinion that migraine was due to an error of refraction plus some form of toxæmia caused by a defective metabolism of certain purins, and that if migraine was not a form of youthful gout, as suggested by Trousseau, there was a close connexion between them. Personally, he was inclined to follow Trousseau's lead, both from an individual acquaintance with the malady for 30 years and from experience gained in general and special practice for 24 years. The following reasons led him to this conclusion: in patients subject to migraine a history of gout could usually be obtained, and in later life when the migrainous attacks had passed away gout in some other form made its appearance; further, the predisposing factors in an attack of migraine, other than the error of refraction, were similar to those which precipitated an attack of gout. Treatment to be curative must be continuous, and for the past five years Mr. Evershed said he had adopted the following method with success: the first essential was to fully correct the error of refraction and to re-examine the refraction periodically, then the patient was instructed to take every night 5 grains of acetosalicylic acid, and once a week a purge containing mercury in some form, and on the following morning a mineral water; the doses of purge and mineral water should be so adjusted that one thorough evacuation was caused. The patient should also avoid certain articles of diet, such as soups, sauces, and gravies made from bone stock, high game, sweetbreads, liver, and kidneys, jellies, and abstain from beers and whiskies; finally, the clothing worn should be regulated relatively to the temperature of the air. Should it be necessary to prescribe treatment for an attack the following would be found to give relief: abstention from food, or if it was necessary to take some, then hot water arrowroot only, rest in bed, the patient wearing a warm night-cap, and having a hot-water bottle in bed, and an extra covering on the bed; in these cases where it was impossible for rest to be taken, then 10 grains of phenacetin, followed in an hour by 5 grains, would give relief, especially if half an hour could be spent in front of a hot fire; but this palliative treatment would only postpone the attack, and it was probable the next one might be more severe than usual. Whatever the treatment adopted, Mr. Evershed wished to emphasise the fact that it was absolutely indispensable to obtain an accurate and full correction of the error of refraction, even to the extent of using atropine in an adult patient, and that the glasses to correct the error must be worn constantly.

Mr. ARTHUR COOKE said that the last three speakers had taken up a strong view that migraine was chiefly caused by eyestrain, in contradistinction to the Vice-President, who seemed to incline to the view that it was closely allied to "petit mal." Much depended in this connexion on whether a large number of ocular headaches closely resembling migraine were to be included in the same category, and a distinction was required. The following definition of migraine would probably be agreed upon: "A paroxysmal affection characterised by severe headache, generally ushered in by some premonitory symptoms, often associated with nausea and vomiting." The premonitory symptoms were usually visual in the form of scintillating scotoma, but might take less noticeable forms; and in a few cases, which must be classed as migraine, might be absent. Such attacks would not include the common ocular headache, and he ventured to suggest that the last speaker, in finding 12 per cent. of migraine cases in his refraction cases, had included some types of headache which were not usually considered to be migraine. Such curious explanations had been given of the pathology of migraine as the following: "a limited arterio-sclerosis," "uncontrolled action of the sympathetic system ending in its exhaustion," and by Dr. Spitzer in 1901 it was stated to be due to "stenosis of the foramen of Winslow." Probably the simple explanation was that migraine was due to two factors—first, the irritable or explosive condition of the central nervous system; and second, some irritation from the periphery, usually eyestrain. When migraine took place there was an explosive outburst, apparently out of all proportion to the cause. The proof that eyestrain was the actual cause was given mainly by the treatment—that is to say, correction of the eyestrain by suitable lenses relieved or abolished migraine in a vast proportion of cases. Just as the diagnosis of tertiary syphilis was proved by the treatment by iodide of potassium and consequent abolition of the lesion, so the origin of migraine in eyestrain was proved by the relief of the condition when the eyestrain was removed. As to that relief, a brief abstract of cases would show this In refraction cases extending over five years, about 3500 cases yielded 28 cases of migraine. Nineteen had been cured or much relieved, in one no change took place, three were better from other causes not connected with the eyes, and five had been lost sight of.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Treatment of Abortion.

A MEETING of this society was held on Nov. 26th, Dr. LINDSAY, the President, being in the chair.

Dr. J. NIGEL STARK showed a specimen of a Cervical Fibroid with a small Intrauterine Polypus which had been the cause of severe hæmorrhage.

Professor R. JARDINE showed a Uterus removed for adenocarcinoma.

The PRESIDENT showed a series of specimens illustrating Necrobiosis in the Embryo.

A discussion on the Treatment of Abortion was introduced by Dr. JAMES TODD, who spoke from the point of view of the general practitioner. Dr. Todd said that sometimes the term abortion was limited to those cases where pregnancy terminated during the first three or four months, but he proposed to speak of it as the termination of pregnancy before the child was viable. The importance of the subject was recognised by medical men, but the public still regarded it as a less serious condition. A large proportion of cases received no medical attention. Dr. Todd's experience was that only 10 or 12 cases out of 30 to 50 abortions were treated by medical men. Practitioners should do all in their power to educate the public in the dangers incident to abortion. Preventive treatment depended on a knowledge of the antenatal pathology. Anæmia, malaria, and syphilis were mentioned as well-known causes. The exciting cause frequently was over-exertion or some local lesion—e g., displacement of the uterus, myomata, or most commonly endometritis. In cases usually termed "habitual abortion" iron with chlorate of potash was useful in treatment. In threatened or recurring abortion treatment depended on diagnosis, and this was sometimes difficult. Extrauterine pregnancy had to be kept in mind. If pregnancy was diagnosed the question whether the abortion was avoidable or inevitable was a vital one. When hæmorrhage was the leading symptom its continuance alone should not be taken as proof of inevitable abortion. If the bleeding was sudden and large it generally denoted separation of the ovum. Rest in bed and rest to the reflexes by opium were recommended if the pregnancy was likely to resume its normal course. In many cases of inevitable abortion Dr. Todd had felt justified in adopting an expectant attitude. The patients feared an operation and grudged the expense, and the conditions of the house were not without danger. Two conditions of the patient which compelled interference were excessive bleeding and signs of sepsis. Plugging the vagina in a working-class house was difficult and dangerous, and of little use in preventing bleeding. Evidence of early septic infection meant emptying the uterus. Frequently the uterus could be cleared out thoroughly with the finger, if not by the gentle use of a blunt curette. The good result of emptying the uterus was frequently very striking. Dr. Todd considered that routine douching after operation might very easily do harm. He usually kept the patient in bed a shorter time than after a normal labour.

Professor JARDINE discussed the subject from the consultant's point of view. He remarked on the increase of cases of abortion which had b [illegible] it had been properly [illegible] spital. A few tampons of wool [illegible] ficient plug and did not do any [illegible] He had found that chlorate of potash was a useful drug and had good effects from it in many cases. In using the curette he advocated an instrument with a large loop, but with a sharp edge, as it was not easy to remove adherent decidual tissue otherwise. Professor Jardine thought that sometimes a misconception arose in practitioners' minds as to when an abortion was complete, and he had found in [illegible] clear idea was given by most [illegible] included in the term "ovum" [illegible] point should be emphasised to [illegible] the treatment of these cases of abortion. In septic cases often those with profuse discharge got well, while those with little or no discharge were really cases of septicæmia and were very fatal. Professor Jardine pointed out the dangers of bleeding and urged efficient plugging, which required really a large quantity of sterile gauze if the plug was to be of any use.

Dr. STARK asked regarding syphilis as a cause of abortion. He remarked on the increase of cases seen at the Royal Samaritan Hospital. He preferred the use of the curette rather than the fingers. He thought the vaginal plug of little use in the treatment of bleeding, and advocated ergot.

Dr. CASKIE urged the use of a large plug and the administration of ergot and opium.

Dr. E. H. T. OLIPHANT mentioned the use of large doses of chlorate of potash up to 40 grains, and had seen it used for months with beneficial results. He referred to its action on the bowel. He sugg [illegible] large number of cases for data [illegible] tion, and referred to the medico- [illegible]

Dr. CRAIG thought that the [illegible] special hospitals was due to the [illegible] pitals were refusing these cases [illegible] was not satisfied that the plugging was sufficient until pressure on the bladder was complained of. He spoke of syphilis and intestinal toxins as causes of abortion.

Dr. MACFARLANE advocated the value of plugging in abortion cases.

Dr. CAMPBELL remarked on the growing use of abortifacient drugs, and mentioned a case where a bone needle had been used to procure abortion, and the needle had become impacted in the vagina.

The PRESIDENT said that some cases of abortion were inevitable from the time of conception, and the causes were to be sought between c [illegible] and also during the early p [illegible] He mentioned the influence [illegible] referred briefly to this cause [illegible] advocated as treatment rest, [illegible] administered. He thought that ergot hindered complete expulsion if given when the ovum was being expelled. He described the use of plugs as stimulating the vaginal reflex, especially if the plug pressed on the vaginal fornices.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Specimens.

A MEETING of this section was held on Nov. 7th, Dr. M. J. GIBSON, the President, being in the chair.

The PRESIDENT exhibited a specimen of Fibroid Uterus removed after Cæsarean Section for Obstructed Labour and Placenta Prævia, from a woman aged 36, admitted to hospital in a collapsed condition, the vagina having been packed first by a clinical clerk, with a history of having had hæmorrhage for several hours previously. The patient made a good recovery. The specimen raised important questions: firstly, the value of Cæsarean section for the immediate control of hæmorrhage in placenta prævia; secondly, the treatment of a single large interstitial myoma after Cæsarean section; and thirdly, the value of hysterectomy in cases which were probably septic.

The PRESIDENT also exhibited a specimen of Cancer of the Ovary removed from a patient, aged 63, who had never borne a child. She had suffered very little pain. The tumour was removed entire, together with the uterus and the other ovary *en masse*. The patient made a good recovery. The points raised were the necessity for removing all the cysts of the ovary entire and the need for removal of the other ovary and uterus in cases of cancer.

The PRESIDENT also showed sections from another case in which the ovaries and uterus had become cancerous in a patient whose breast had previously been removed for cancer.

Dr. B. A. H. SOLOMONS, Dr. GIBBON FITZGIBBON, and Dr. H. JELLETT took part in the discussion, and the PRESIDENT replied.

Dr. JELLETT showed a Submucous Myoma removed by Myomectomy from a woman aged 30, admitted on Oct. 18th, 1913. She had been married three months, and had not been pregnant. She complained of a tumour, which she first noticed a year and a half previously. It was then about the size of an orange, and had been growing steadily ever since. The abdomen was found to be occupied by a tumour reaching up to the umbilicus, hard, and incorporated with the uterus. A submucous myoma, the size of a large orange, was found projecting from the cervix, and probably continuous with the tumour above. Around this the cervix could be felt very much thinned out and dilated.

Dr. JELLETT reported a case of Full-time Extra-uterine Pregnancy with Uterus in a patient admitted on June 12th, 1913, aged 38, married 15 years. She had four children at term, four abortions, and was pregnant at term when admitted. On admission the top of the fundus was just above the umbilicus. No fœtal heart heard. Two days later—that is, June 14th—an attempt was made to induce labour by Krause's method. The cervix seemed somewhat hard and small for a pregnant cervix, but nothing else abnormal. Bimanual examination afforded no information. Two bougies and tents also were inserted, and the vagina was packed with iodoform gauze in sterile glycerine. On the following morning, as labour had not come on, the tents and bougies were removed, more tents inserted, and the vagina packed as before. Next morning, still no labour pains, so the tents were removed. Fœtal head felt low in posterior fornix. A foot was brought down, the head pushed up, and the child extracted, during which the cervix seemed to tear behind. Fœtus was macerated. On attempting to remove the placenta manually the hand entered a cavity, and a much larger cavity was felt on right, extending up towards the liver. No placenta could be felt, but a piece of omentum came down and the intestines could be felt. Laparotomy was immediately performed. Free blood, but not much. Placenta was free and was removed first. An abdominal pregnancy was discovered, the sac apparently originating in the right broad ligament, extending out towards the left, and up on right towards the liver. The posterior lip of the cervix was torn, the tear extending downwards across the posterior fornix. The lower part of the uterus seemed very rotten and friable. Supravaginal hysterectomy was done, and the sac packed with gauze, the end being pushed out through the tear in the posterior fornix, and the cavity stitched together over the gauze. Two bimanual examinations had failed to reveal the presence of a small uterus, this condition being only discovered on laparotomy.—Dr. R. J. ROWLETTE suggested that, having regard to the fact that six weeks previously the patient, who lived in the country, had labour pains, the uterus at the time ruptured and allowed the greater part of the ovum to pass into the abdominal cavity, and that the uterus then involuted.—Mr. E. H. TWEEDY, Sir WILLIAM SMYLY, Dr. T. NEILL, Dr. V. J. MCALLISTER and the PRESIDENT took part in the discussion.—Dr. JELLETT, in reply, said that the sac of the ovum was adherent to the intestine and omentum, which disproved Dr. Rowlette's suggestion of the extrusion of the ovum through a rupture of the uterus six weeks before the patient came to hospital. Mr. Tweedy's previous myomectomy was done on the anterior wall of the uterus, and Dr. Jellett did not consider that it had had any effect in producing the condition met with. Neither Dr. Madill nor himself had the least idea that they were not dealing with an intra-uterine pregnancy until the abdomen was opened after the rupture of the gestation sac.

SECTION OF SURGERY.

Paget's Disease of the Nipple.—Carcinoma of the Breast.

A MEETING of this section was held on Nov. 28th, Mr. K. E. L. G. GUNN being in the chair.

Mr. R. C. B. MAUNSELL and Dr. J. T. WIGHAM communicated a paper on a case of Paget's Disease of the Nipple. Paget's original description was quoted, then an accurate clinical and microscopical description of the case was read. The communication was profusely illustrated with original coloured drawings and lantern slides of the clinical and microscopical appearances.—Mr. GUNN thanked Mr. Maunsell and Dr. Wigham for bringing forward the case. The rarity of the disease, he said, made the subject of greater interest, although more difficult to discuss.—Mr. A. J. BLAYNEY said that Mr. Maunsell regarded the case as of the nature of rodent ulcer. From this opinion he dissented. Another point of interest was that all cases observed terminated in cancer of the breast, and this also was contrary to the theory of rodent ulcer. It was pointed out that in most cases of rodent ulcer no enlargement of glands was to be found in the neighbourhood. Although he had an open mind on the subject he was inclined to the view that it was a case of malignant growth of the skin which subsequently spread to the breast.—Mr. H. STOKES also discussed the case. —Mr. MAUNSELL, in replying, said that before, at, and subsequent to operation a search was made for glands, but none were found. In his and Paget's description induration was not mentioned. The appearance or process of cells was more like that seen in rodent ulcer than anything else.—Dr. WIGHAM replying, said that the case should be considered rather as a skin cancer than as rodent ulcer.

Mr. W. PEARSON read a paper on the Technique of Operation for Carcinoma of the Breast. He pointed out the principle on which modern radical operations for carcinoma are based, and communicated the following secondary principles of importance: (1) To avoid dissemination and wound-implantation of cancer cells during operative procedures; (2) to minimise hæmorrhage and shock; (3) to minimise the risks of infection; and (4) to avoid unnecessary mutilation and loss of function. The scope of the radical operation in favourable cases of carcinoma of the breast, in the light of Handley's investigations, was indicated, and the application of the secondary principles to the procedure discussed. The precise technique adopted was then explained with the aid of lantern slides, the special points on which emphasis was laid being: 1. That extensive removal of the fascial tissues with their contained lymphatics was the most important safeguard against recurrence. 2. That the operation, even in the making of the cutaneous incisions, should be regarded as a two-stage procedure—an axillary portion which should be first carried out, and, secondly, an abdomino-thoracic portion. 3. The use of the deep fascia over the clavicular fibres of the pectoralis major (which fibres might safely be retained in favourable cases) as a guide to the separation of the clavicular from the sternal divisions of the muscle. 4. The use of clamps on the pectoral muscles before division, both to act as retractors and to prevent possible dissemination. 5. The systematic exposure and securing of the blood-vessels in such a way that the operation was practically a bloodless one. 6. The necessity for additional drainage, besides the ordinary drain in the axilla, in certain cases. 7. The reconstitution of the axillary vault as the greatest safeguard against subsequent loss of function. 8. The importance of early movements of the arm.—Mr. GUNN emphasised the point that success in curing cancer of the breast depended more on early diagnosis than on the technique of the operation.—Mr. S. S. PRINGLE said that the procedure mentioned in the paper was the same as he had been carrying out for some years. A thing which impressed him with regard to this operation was the importance of keeping the upper ends of the incision well out of the axilla on account of the difficulty of properly sterilising the axillary fossa.—Mr. J. F. L. KEEGAN, Mr. STOKES, Mr. MAUNSELL, and Mr. C. A. BALL also discussed the paper.—Mr. PEARSON replied.

MANCHESTER PATHOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 10th, Dr. A. Brown, the President, being in the chair.—Dr. Elliott gave an address on the human remains found on the site of the Roman cemetery recently discovered in Chester. The address was illustrated by lantern slides and autochromes. The situation and extent of the crofts, known in ancient times as "Lady Barrow's Hey," were described, the only portion remaining as meadow land until two years ago being the field adjoining the infirmary and known as the "Infirmary field." On this field two new wings in connexion with the infirmary extension are now being erected, and the excavations for their foundations have disclosed the site of a Roman cemetery. Some 30 burials have already been disclosed within a small area, in addition to a number of indiscriminate Roman interments at the back of the existing infirmary on the site of the new out-patient department, and in close proximity to the main site. The probable extent of the Roman city as contrasted with the present mural boundaries was discussed, showing that the site of the cemetery, although within the area of the modern walls, was certainly extramural in Roman times. The burials in nearly every case were in the boulder clay, superficial to which was a layer of virgin soil some two feet in depth, with a layer of surface soil of about the same depth above. A numbered plan of the graves was exhibited. Almost without exception the floor of the graves was sprinkled with a layer of finely divided, broken-up Roman tiles or bricks, mixed in many cases with charcoal. The varieties of burial were described and illustrated, comprising: 1. An arched tomb composed of sandstone blocks. 2. Tiled graves of rectangular box shape, composed of large roofing tiles forming the base, sides, and ends, three of which in one case bore the stamp of the Legion, Leg. XX. V. V., in each case on the surface of the tile looking inwards. The remains of male skeletons only were found in these "tiled graves." 3. Tiled graves composed of roofing tiles on each side meeting at an acute angle above, and thus forming on vertical section a triangular covering closed at the foot by another roofing tile. Outside the foot tile of one of those graves were found four vessels of Roman pottery (two of which were of Samian ware) with the bases perforated from without, and inside the grave under the feet of the skeleton were found the broken fragments of the bases with the potter's marks, thus throwing an interesting light on the graveside customs of that period. 4. A "cist" composed of sandstone blocks—the grave of a child. 5. *Plain rectangular pits.* In most cases numbers of roughly hewn sandstone "burrs" formed a superficial covering over the grave and surrounding area to prevent the inroads of wild animals. In one case a sheet of lead 16 inches wide covered the body from head to foot, being raised at the head end and curved over the feet. A number of skulls were exhibited showing the types of the inhabitants of Roman Britain: (1) the Mediterranean race; (2) the brachycephalic "Celt"; and (3) the extremely dolichocephalic skull of the type of Neolithic man. The origin and distribution of these races were discussed and illustrated. A number of interesting objects found in association with the burials were exhibited and illustrated, including brass coins of Antoninus Pius, Commodus, and a rare first century brass of Domitian; in several cases coins were found in the mouth, staining the lower jaw with verdigris; Roman lamp with maker's stamp "Fortis"; sandals with iron studs, those found in association with female skeletons being either devoid of studs or only provided with light ones; a stone "muller" with adhering vermilion and buff-coloured pigments associated with masses of fused bronze—in the grave of a male adult who had evidently been a worker in bronze; bone hair-pins and bones of animals; vessels of pottery and glass, some belonging to well-recognised types, others of rare occurrence; beads and fragments of bronze ornaments; oyster shells, &c. The almost universal occurrence of large iron nails, many with a projecting shoulder, was noted, and their significance discussed. In some of them adhering fragments of wood, which under the microscope could be identified as Pinus sylvestris, had been found in the later discovered burials. The stature of the individuals during life was estimated from the formulæ worked out by Professor Karl Pearson and his pupils, as also the cubical capacity of the skulls. The peculiarities of the bones, both anatomical and pathological, were described. Several instances of metopism in the skulls and platycnemia of tibiæ were demonstrated. One example of hydrocephalus and one of exostosis in both external auditory canals were shown, as also a depression in the temporal bone indicating a healed mastoid abscess in another specimen. A typical achondroplasic skull of an adult was shown and the history and pathology of the disease indicated. Instances of caries in the well-worn teeth were few and far between, and instances of rheumatoid arthritis in the bones most exceptional. The early age at death was commented upon, and an illustration of an altar found in Chester erected by "Hermogenes, a physician," who is conjectured to have been physician to the Emperor Hadrian, was described as unique, the facilities for obtaining medical assistance at that early period in Britain being in all probability very remote. All the available evidence pointed to the fact that these burials were undoubtedly of the second century so far as excavated at present.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At a meeting of this society held on Dec. 5th, Dr. F. S. Palmer, the President, in the chair, Mr. J. E. R. McDonagh read a paper on the Biology of Syphilis. He maintained that after infection one or more spores gain access to the skin where they develop. When sufficient cycles which comprise the life-history of the leucocytozoon syphilidis have been completed the patient develops a sore. The spores gain access to connective tissue cells, which multiply enormously. The spore is a small body consisting almost entirely of nuclein, which as such is powerless, therefore it is obliged to enter a cell. A nucleus cannot develop without a nucleolus of the lecithin-globulin compound. This can only develop at the expense of the host, therefore it is necessary for the spore to enter a cell, which in the case of syphilis is a connective tissue cell. The lecithin globulin is built up from the simple protein of the protoplasm of the connective tissue cell. The lipoid protein forms a colloidal membrane in which the spore or trophozoote develops. In this envelope the nucleus either buds to form sexual nexozoitæ, or it divides and subdivides to form an asexual spore cyst. The former occurs in every case of syphilis, while the latter has only been found in the lymphatic glands from severe cases of the early generalised disease. An asexual spore cyst may bud to form daughter spore cysts, the parasite by this time being extracellular owing to the degeneration of the connective tissue cell. In the other mode of development of the trophozoite about 7 to 15 bodies are formed, each one having a lecithin-globulin envelope. When fully developed the cell bursts, the sexual mexozoites escaping to form male and female genitocytes, both motile. Later the female loses the blepharoplasts, becomes non-motile, and if about to be fertilised the nucleus takes a central position. The male genitocyte enters a large mononuclear leucocyte, where the three nuclear bodies increase in size and form a coil, and from each nuclear body a number of spirochætæ arise, ultimately breaking loose, when each can be recognised as a true spirochæta pallida. In extracellular development each nuclear body divides and subdivides; general bodies may break away *en masse*, ultimately breaking up into distinct coccus-like forms. Each coccus-like body contains two rods, which eventually become typical spirochætæ pallidæ. The intracellular development, according to the author, has been found in every syphilitic lesion so far examined, while the extracellular has only been found in chancres and condylomata. During fertilisation the spirochæta appears to enter the female nucleus wherein it becomes lost. In both cases the nucleus containing male and female elements migrates to the upper pole. After impregnation a polar body is shot out with great force from the cell, and again another after a minute or two. The nucleus then divides and subdivides into spiroblasts, which later form sporozoites. Mr. McDonagh then discussed the biology of the secondary and tertiary stages and of syphilis of the nervous system. With regard to the mechanism of protection against the leucocytozoon, he suggested that this was by means of the "oxygen-chain," the first link being the real blood corpuscles (containing free oxygen and a peroxydase), the next link a mast cell (its nuclei containing free oxygen and an activating ferment), and the last link the protoplasmic (containing oxygen but no peroxydase). The accelerator of the enzyme action is the element in the drug prescribed, such as arsenic, antimony, or mercury. He argued that as the protoplasm of plasma cells contains oxygen and lipoids, and metals accelerate an oxidising enzyme, possibly this enzyme abstracts oxygen from the lecithin, globulin envelope of the parasite, the envelope extracts free oxygen from the nucleus, with the result that if the ferment is powerful enough all free oxygen is abstracted and the parasite dies. The male gamete or spirochæta pallida is destroyed more quickly than other phases, and has also the strongest reducing action. In the author's opinion nerve cells are probably only influenced by spirochætæ. These being rich in unsaturated fatty acids snatch up the fats, lipoids, carbohydrates, and proteins of nerve cells. In the same way he maintains that nerve cells can take up substances, such as arsenic, and enable them to become part of their lipoids. Hence the nerve degeneration following injections of salvarsan into the theca.—The paper was followed by a discussion, in which the President, Staff-Surgeon G. B. Scott, R.N., Major Harrison, R.A.M.C., Mr. Aslett Baldwin, Mr. Rickard W. Lloyd, and Dr. Lloyd took part, and Mr. McDonagh then replied.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 28th, Mr. A. Ernest Maylard, the President, being in the chair.—Mr. Henry Rutherfurd showed: 1. A case of Plexiform Neuro-fibroma in a girl aged 8 years, with hypertrophic and pigmentary changes in the skin and some angiomatous patches, atrophy of muscles, and atrophy or rarefaction of bone as indicated by repeated fractures and verified by skiagraphs. 2. A case of Cystic Disease of Bone (upper end of humerus) in a boy aged 14 years, treated by free opening up and implantation of bone. The patient was shown, with skiagrams before and after operation. 3. Gall-bladders removed in conditions of Cholelithiasis (four recent cases), with microscopic preparations. 4. (With Professor J. H. Teacher.) The Spinal Column of a boy aged 6 years, the seat of multiple tuberculous foci (upper cervical, dorsal, and lumbo-sacral).—Dr. A. Louise McIlroy made a short communication on a case of Chorion-epithelioma and one of Myomata complicated with pregnancy, and showed coloured photographs. In the first case, that of a patient aged 30, a diagnosis of incomplete abortion was made, and on microscopic examination of the curettings Professor Teacher found chorion-epitheliomatous tissue. Panhysterectomy was performed with complete recovery. In the second case the patient, aged 30, had been married six years and was sterile. Dysmenorrhœa and menorrhagia had been present. On the onset of uterine hæmorrhage the patient was examined under an anæsthetic, and myomata with pregnancy were diagnosed. Supravaginal hysterectomy was performed, and on section of the specimen a four and a half months fœtus was seen. In the wall of the uterus were several myomata, one of which showed marked degenerative changes. The patient's health was markedly improved after operation.—Dr. J. W. McNee read a paper on Recent Work on the Etiology of Gall-stones. The views of the etiology of gall-stones which had been held for the last 20 years were those of Naunyn, who recognised two factors in the formation of all varieties of gall-stones—(1) stasis of the bile in the gall-bladder; and (2) inflammatory catarrh of the gall-bladder mucosa induced by micro-organisms. The work of Aschoff and his pupils, now accepted practically throughout Germany, had shown that three factors operated: 1. Stasis, by permitting the separating out of the constituents of gall-stones from the bile; the importance of this factor was seen in pregnancy and in general adiposity, two conditions in which the proclivity to gall-stone formation was well recognised. 2. Altered concentration of the constituents of the bile—i.e., increase of the stone-forming elements. It was now known that the amount of the cholesterin in the blood serum was above the normal in pregnancy, in diabetes mellitus, and other conditions of disease, and below the normal in tuberculosis, tumours, and acute fevers, except enteric; while the speaker, using the Windaus digitonin method in Aschoff's laboratory, had found in four cases of pregnancy amounts of cholesterin from 4 to 5 times the normal, and in a case of acute phthisis a month or two after delivery an amount eight times the normal. 3. Infection by micro-organisms, most commonly of the coli-typhoid group, which set up a cholecystitis, with inflammatory exudate and increased mucous secretion from the gall-bladder walls and consequent addition of excess of lime salts to the bile. About 20 per cent. of all stones had, at first at least, no inflammatory factor in their origin. These were the pure cholesterin stones, crystalline in structure, occurring singly, often without symptoms, and due to the combined effect of stasis and excess of cholesterin in the bile. Infection of a gall-bladder containing such a stone led to an excess of lime salts in the bile and to the coating of the stone with a mantle of chalk and cholesterin deposited in concentric layers, and so to the formation of a "combination stone." Few cases of pure cholesterin stones escaped this inflammatory change, while 20 per cent. of all cases of inflammatory cholelithiasis passed through a non-inflammatory period. The commonest type of stone was the cholesterin-chalk or cholesterin-chalk-pigment stone, non-crystalline, of concentric formation, always multiple, often extraordinarily numerous, and originating in a gall-bladder which had become inflamed, and which might or might not have previously contained a stone of aseptic origin. Any truly rational treatment of gall-stones must not only aim at removal of the stones present, but must combat the stasis in the gall-bladder by adequate drainage, promote healing of the inflamed and often ulcerated gall-bladder wall, and take cognisance of the conditions which tended to increase the excretion of cholesterin in the bile.

Wigan Medical Society.—A meeting of this society was held on Nov. 25th, Dr. J. T. Shirlaw, the President, being in the chair.—Dr. George Jessel, tuberculosis officer for Wigan and area 14 of the county of Lancashire, read a paper on the Tuberculosis Dispensary. He said that on the next day there was to be opened in Wigan the first tuberculosis dispensary of its kind in the kingdom. It was to be under the joint authority of the county borough of Wigan and of the county of Lancashire, and was of an experimental nature, and would be watched with interest by other bodies. He pointed out the great and urgent necessity for a strenuous fight against tuberculosis, quoting the phthisis death-rate for England and Wales and the county borough. The dispensary idea was not new, neither was it called into being by the Insurance Act. The honour of being first in the land was due to Sir Robert Philip, of Edinburgh, and most of the later dispensaries had been largely modelled on this. The ideal tuberculosis dispensary should fulfil many duties. 1 It should be a centre for diagnosis. Dr. Jessel here emphasised the difficulty and desirability of early diagnosis. 2. It should act as an observation centre, bringing the tuberculosis officer in touch with contacts, suspects, &c. 3. A treatment centre in touch with all the various agencies for treatment. In this connexion he mentioned observation beds, which might be set up in various centres for the more careful observation of doubtful cases, sanatorial treatment, domiciliary treatment, isolation treatment for advanced cases so as to remove danger centres, surgical treatment for the various forms of surgical tuberculosis, after-treatment of cases returned from sanatoriums, &c. 4. A centre for research work. This must form an important part of the duty of a dispensary. 5. An information bureau and educational centre, from which would be distributed information regarding tuberculosis, its causes, mode of onset, &c., as only by educating people in this way could we obtain the intelligent coöperation of the people themselves, without which a great many early cases would be missed. 6. A centre for the after-care of cases recovered and recovering. There would eventually be in connexion with the ideal dispensary a farm colony or work colony, where the patients would work under proper care and supervision. Dr. Jessel next spoke of the ideal tuberculosis officer, who he thought should spend some time as a general practitioner. He then detailed his scheme to enable the dispensary and its officer to keep in touch with (1) the patient; (2) the medical officer of health, whose cordial support and coöperation were vital to the scheme; (3) the Insurance Committee; and (4) the panel doctors. He concluded by showing specimen cards to medical men in attendance, weight registers, simple temperature cards, &c., which he proposed to use in connexion with this work.—Several members present discussed Dr. Jessel's paper, and a hearty vote of thanks was passed to him for his address.—The biennial dinner of the society was held on Dec. 11th.

Manchester Medical Society.—A meeting of this society was held on Dec. 3rd.—Dr. T. Graham Brown read a paper on Walking, in which he pointed out that animal progression was interesting not only from the standpoint of mechanics, but also from that of the central nervous control of the act, many of the problems of the physiology of the spinal cord being centred round the phenomenon. The dynamics of walking were considered and illustrated in the case of flight in the bird, and terrestrial progression in the case of the quadruped and in man. The characteristic rhythmic alternation of movement—e.g., flexion and extension in man—was emphasised. The physiology of the act was considered. It is not voluntary, since progression may be evoked after the removal of the cerebral control, as in Freusberg's "mark-time" reflex. Is it reflex? The problem presented centres round the question of the causation of the rhythmic alternation of movement. The methods of investigation were then described a[illegible] advanced: (*a*) That the rhythmic [illegible] is produced reflexly by the self-generated skin stimuli produced during the act by the pressure of the foot on the ground, &c. Objections to this view were discussed. (*b*) That the alternation is produced by the rhythmic inhibition of a maintained reflex; and that this rhythmic inhibition is self-generated by the movements of the active muscles stimulating the sensory organs in the muscles themselves during the act. (*c*) Experiments show that progression may take place after all the sensory nerves of the limbs have been destroyed. This shows that the rhythmic phenomenon is conditioned in the centres themselves and is not peripherally self-maintained. They also indicate that the rhythm results during a balance of equal and opposite activities in the centres. Therefore the theory has been propounded that the rhythm is conditioned during the equal and opposite activation of antagonistic spinal centres for the muscles of the limbs. Is this equal and opposite activation reflex—that is, caused by peripheral afferent stimuli? Against this is the fact that the act of progression may occur at a depth of narcosis at which the peripherally generated reflexes are abolished. The theory suggested by Dr. Brown is that the rhythm of progression is conditioned during an equal and opposite activation of the antagonistic spinal centres; that the rhythm is not a property of the nerve-cell discharge as such; that it is fundamentally conditioned by the arrangement of the interconnexions of antagonistic nerve cells; that the equal and opposite activation of the antagonistic nerve cells may be in its turn conditioned by some such state as that produced by the "blood stimulus" in the respiratory centre; and that all the other factors emphasised in other theories are subsidiary in the normal act, helping and controlling it, but not fundamentally conditioning it.

Bristol Health Committee.—At a recent meeting Mr. Colston Wintle was once more elected chairman of this committee, which has met 187 times, either in full committee or in subcommittee, during the past 12 months. Mr. Wintle gave a *résumé* of the year's work.

Hospital Almoners' Council.—The annual meeting of the council was held on Dec 10th at the Central Buildings, Westminster, Sir Malcolm Morris, Vice-President, in the chair. The secretary stated that 15 candidates for almoners' posts were in course of training. He referred to the appointment of an in-patient almoner at Great Ormond-street Hospital for Sick Children, and drew attention to the numerous appointments of assistant almoners as evidence of appreciation of the system on the part of those hospitals which had adopted it. In moving the adoption of the annual report Sir Malcolm Morris said that, after 48 years' experience of hospitals, he was convinced that there was no more important work being done in London than that of the almoners in supplementing the medical treatment provided by the hospitals. He pointed out that, unless the work of hospitals is linked up with that of charities outside their walls, patients cannot be enabled to benefit fully by the treatment they receive. He referred to the necessity of careful training for the work as provided by the council. He was of opinion that the public know far too little of the movement, and urging that it should be brought into much greater prominence, added that he would be glad to assist in this direction.

Reviews and Notices of Books.

Studies in Cancer and Allied Subjects: The Study of Experimental Cancer.

A Review by WILLIAM H WOGLOM, M.D, Assistant Professor, Columbia University. Conducted under the George Crocker Special Research Fund at Columbia University. Vol. I. New York: Columbia University Press. 1913 Pp 288. Price $5.

VOLUME II., dealing with the Pathology of Cancer, conducted under the Crocker Research Fund, was reviewed in THE LANCET of April 26th, 1913. In Volume I., which has been recently issued, we have a summary of the more recent experimental investigations of cancer. No attempt is made to give a critical *précis* at this time, since much of the work is so new, and ideas regarding the disease are so chaotic, says Dr. Woglom, that evaluation is well-nigh impossible. The author, however, ends on a more optimistic note, for, he says, "newer conceptions of malignant growth encourage the hope that at some time, far in the future though it may be, the dream of effectual interference with incessantly proliferating cells will become an actuality." Chemical studies have been omitted because a number of excellent reviews are in existence, and also because investigation in this field has thus far yielded but little of practical importance, while the bacteriological side has been neglected, because its discussion would amount to little more than a list of micro-organisms.

Having delimited his theme the author deals in succession with the following: A brief historical review; attempts to produce tumours; the earlier observations on the transmissibility of cancer; the transplanted tumour resistance; hypersusceptibility; the spontaneous tumour; tumours of a nature still undecided; and therapeutics.

From the earliest days in medicine cancer has been recognized to some extent as an incurable and fatal disease. Though the literature of experimental cancer seems to be a tangle of conflicting statements, there are a few threads which the author has endeavoured to disentangle and follow through. The mass of detail with appropriate references cited by Dr. Woglom is so vast that we must content ourselves with a brief summary of some of the main findings which may be regarded, he thinks, as "probably reliable," having received the support of a majority of those engaged in cancer research. It is to be remembered that there are mice and mice, and that what may happen in two groups of ten mice may not, and often does not, occur in a third series. The greatest amount of attention has been bestowed on mouse cancer, and the author expresses the view that there can be scarcely any doubt that the neoplasms of the mouse are entirely comparable to those of man. Malignant growths have been found in all classes of animals from fishes to mammals with one exception—viz., that no certain instance has yet been reported among the reptiles. There is some evidence to show that in mice there is an hereditary influence at work making mice of recent cancerous ancestry more prone to develop cancer than those in which the taint is more remote. Almost any spontaneous new growth in mice can be transplanted into other mice, and the propagation generally becomes easier in succeeding generations. Moreover, cancer is more readily transplantable into the animal in which it arose spontaneously than into any other. In addition, an animal cannot be immunised in any manner yet at command against the inoculation of its own primary tumour. These and other observations militate strongly against any parasitic theory of cancer. After a portion of a tumour is introduced into another host, the proliferation of the tumour is an example, not of an infection, but of a transplantation. The parenchymal cells of the resulting growth are derived, not from the elements of the new host, but from those of the transferred graft. These transplanted cells are nourished and supported by connective tissue and blood-vessels of the new organism.

A fact of prime importance in relation to all so-called cures of cancer is this, that propagable tumours are subject to fluctuations in growth energy. Indeed, they may grow progressively or disappear spontaneously. Under most favourable conditions the proliferative power of the cancer cell falls far short of that possessed by bacteria, and perhaps also of the cells of the developing embryo. Mice in which tumours have undergone partial or complete absorption are refractory to subsequent transplantation, either of the same or another growth. Immunity once induced cannot be transferred passively to other animals. There is a certain amount of evidence to show that natural resistance may be the outcome of hereditary transmission, but none to show that acquired immunity can be transferred. This brief summary, condensed from that of the author, postulates the present position of the question. Indeed, Dr. Woglom, after his most comprehensive survey and mature deliberation on the vast amount of detail he has passed in review, says: "It must be frankly confessed that so far, at least, the study of cancer, instead of affording an understanding of the nature of the disease, has but opened up new problems which were formerly not even conceived."

We express our grateful thanks to the author for his luminous summary of the present position of the question of experimental cancer.

Vaccine and Serum Therapy, including a Study of Infections, Theories of Immunity, Specific Diagnosis, and Chemotherapy.

By EDWIN HENRY SCHORER, B S., M.D, Dr.P.H, Assistant Rockefeller Institute for Medical Research, New York City, &c. Second revised edition. London: Henry Kimpton; Glasgow: Alexander Stenhouse. 1913. Pp. 300. Price 12*s*. 6*d*. net.

THIS book proceeds on the usual lines of text-books on its subject. The first chapter deals with the general features of infectious disease, and the second with the different theories which have been put forward to explain the phenomena of immunity. The third chapter is devoted to specific diagnosis, including identification of organisms, agglutination, fixation of complement, opsonic determinations, and so forth, some empirical tests such as the cobra venom reaction being also mentioned, and some account given of inclusion bodies and filtrable viruses. The fourth chapter deals with specific methods of treatment by means of vaccines and serums, some account being given of the mode of preparing and standardising the latter and of the phenomena of serum disease. A few pages also are devoted to the use of leucocytic extract and normal serum. The fifth, last, and longest chapter contains an account of the practical application of the methods already described to the individual infections, while an appendix is added on diagnosis, treatment, and prophylaxis of syphilis and malaria. There are a few illustrations, chiefly of temperature charts and apparatus.

The treatment of the subject throughout is adequate and the material is brought well up to date. In places the style seems unduly condensed, and we could have spared the brief accounts of the clinical features of some of the affections, which are not of much value, in order to have more detail on essential points. Thus the statement that "the only harm that can be done by careful tuberculin therapy exists when there are complicating diseases. Of these there are few of importance"—with no indication as to which are important—is not illuminating. Again, the assertion that all forms of tuberculin "produce good results in all types and forms of tuberculosis" is a wild overstatement, due probably merely to condensed or careless writing. The author has seen no marked good effects from the use of phylacogens. The author should make up his mind whether he wishes to call the organism of syphilis treponema or spirochæta and adhere throughout to one or other term. By the way, the phrase "two treponema" cannot be correct, though it may be a matter of individual preference whether the plural used is the English treponemas or the Græcolatin treponemata. It is fervently to be hoped that Noguchi's atrocities of nomenclature here adopted, sp. microdentium and macrodentium, will not survive.

The Poisonous Terrestrial Snakes of our British Indian Dominions (including Ceylon) and How to Recognise Them, with Symptoms of Snake Poisoning and Treatment.

By Major F. WALL, I.M.S., C.M.Z.S. Third edition. Bombay: Natural History Society. 1913 Pp. 149. Price Rs.3.

THE practical nature of the author's aim, partly indicated in the title, accounts for the neglect of the marine snakes in the volume before us. While Major Wall has not absolutely ignored the varied forms which frequent the seas that wash the shores of India and Ceylon, there is enough to be said about the numerous poisonous terrestrial snakes to justify any curtailment at the expense of their less important marine allies. The author enumerates 40 species of vipers and venomous colubrines as inhabitants of the political regions defined in his title, and to each species devotes a sufficient technical description and general notes upon appearance and habits. It should be easy enough for anyone of intelligence to identify a given species after mastering the clear directions devoted in an earlier chapter to the principal characters of scales and so forth, used in the differentiation of species from species and of genus from genus. These directions are accompanied by plain outline drawings of the head and tail of most of the marked types, which almost render a prolonged attention to the text unnecessary, so descriptive are they to the eye.

The zoological part of the book occupies 66 pages, the rest being devoted to snake poisoning and the symptoms and remedies thereof. In a condensed practical treatise of this sort disquisitions upon zoological matters of wider interest must not be looked for. The author has, however, devoted quite as much care to the preparation of the purely scientific side as to the more purely practical of his handbook. His statements of fact are trustworthy, and he has not ignored contemporary literature. The classification used is that crystallised by Dr. Boulenger into his British Museum catalogue of snakes, and only external characters are tabulated by Major Wall. For practical purposes this can still be done; but it is a little difficult to be sure whether it will be possible in the case of new forms which may turn up.

We are not at all surprised that this excellent manual has reached a third edition. Seeing how little in the way of records of new snakes has occurred since 1908, when the manual was first published, and having regard also to the energetic study on the part of herpetologists of many countries, it is not perhaps likely that the list displayed by Major Wall will be materially increased. This reflection gives us additional confidence in recommending the work.

Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord.

By ROBERT BING, Privat-docent for Neurology in the University of Basle. Translated by F. S. ARNOLD, M.B., B.Ch. Oxon Second edition, revised and enlarged, with 73 illustrations. London: Rebman. 1913. Pp. 222. Price 10*s.* 6*d.* net.

WE have already favourably reviewed both the German and the English editions of this book. We now extend a welcome to the second English edition. A considerable number of emendations and additions have been found necessary: there is new material in the sections on the motor cortex, extracerebellar tumours, aphasia, apraxia, the pituitary and the pineal glands, &c. Some new illustrations are supplied, and a few of the old have been improved. In this new edition we consider that the needs of the student and the practitioner who is not a professed neurologist have been catered for in generous fashion.

Zur Psychopathologie des Alltagslebens.

(Über Vergessen, Versprechen, Vergreifen, Aberglaube und Irrtum.) By Professor Dr. SIGMUND FREUD, Vienna Fourth, enlarged edition. Berlin: S. Karger. 1913. Pp. 198. Price 5 marks.

Professor Freud, as is well known to all workers in modern psychology, sees in everyday life innumerable instances of passion lurking behind trifling occurrences and incidents, instances of concealed or repressed mental processes behind the slips of the tongue, the mistakes, the forgetfulness, the misconceptions, to which all are more or less subject. That behind some apparently accidental and paltry occurrences repressed motives are at work is a truism which any introspective individual may readily discover for himself. Not infrequently the analysis of such incidents is psychologically very instructive, and the debt which psychology owes to the author is augmented by the critical and unflinching dissection of the human mind revealed in the book under consideration

Nevertheless, after re-reading this fourth edition, it is the duty of the critic to call attention to the author's tendency to overrate the significance of much of his material. The "will to believe" itself requires vigorous repression if we are to be saved from some of the exuberant interpretations which he would offer us. Thus we are told that the common experience of moving from one side to the other in front of an individual on the sidewalk, who makes the same movements so that progression is for the moment at a standstill, "sexuelle Absichten unter der Maske der Ungeschicklichkeit verfolgt." When Professor Freud "accidentally" knocks a little marble statuette off his table there is a hidden meaning in the incident; the examination of such instances has convinced him that it is never the result of an accident. If, however, a domestic does the same, "so wird man an eine psychologische Erklärung hierfür gewiss nicht in erster Linie denken." Why "gewiss nicht"? These, and sundry other instances that might be quoted from the book, put a strain on the reader's willingness to endeavour to understand the author's argument. Much of what is offered by Professor Freud as explanatory is merely conjectural if not purely fantastic. The saving grace of common sense might, in some cases at least, find a simpler interpretation than that imagined by the ingenious subtlety of which Professor Freud is a master.

Handbuch der Vergleichenden Physiologie.

Herausgegeben von HANS WINTERSTEIN. Lieferung 37. Band III. *Physiologie des Energiewechsels.* Erste Hälfte. Jena: Gustav Fischer. 1913. Pp. 1133–1294. Price 5 marks.

Professor Biedermann brings to a close his long, laborious, and elaborate account of the physiology of the supporting and skeletal substances of the body with a fascinating account of the architecture of bone. Histology and architecture are considered, especially from the functional point of view, with a thoroughness and wealth of detail which leave nothing to be desired. The chemistry and development of bone conclude the article.

R. F. Fuchs, of Breslau, deals with the colour changes and the chromatic cutaneous functions of animals, a subject which attracted the attention of Aristotle himself. Beginning with the invertebrates, the chromatophores in the lower forms are first considered, then those of the mollusca, excluding the cephalopoda. To the colour changes and chromatophores of the cephalopoda alone nearly 100 pages, well illustrated, are given. This is by far the most comprehensive review that we know of on a fascinating subject. In the final pages the author begins his exposition of the colour changes in arthropoda.

LIBRARY TABLE.

The Principles of Evolution. By JOSEPH MCCABE London and Glasgow: Collins, Sons, and Co., Limited 1913. Pp. 264. Price 1*s.* net.—Mr. Joseph McCabe has a remarkable gift for dealing with a large subject in a small space. He gives in this little book a really good all-round description of the many various things connoted by the word "evolution." He explains what it is, and what effect its doctrines have had, not only in every conceivable field of study, but also on the thoughts, lives, and social behaviour of us all. He has to a great extent returned to first principles in narrating the facts and in dealing with the natural agencies of evolution, its range, and the various particular problems which at present engage attention. The chapter on natural selection is a clear exposition of two words of constant occurrence in newspapers and conversation, and very frequently misapplied. Mr. McCabe is the author of books describing the heavens and the earth on evolutionary lines, and to some extent this volume of the National Library is used as a supplement to previous writings. We recommend the book cordially. It is extraordinarily comprehensive, considering its size, and it is properly dogmatic—by which we mean to say that the need is recognised, if a book is to be small while its subject is almost indefinitely large, of saying certain things in a downright way without marshalling all the evidence for or against their truth.

The Practical Medicine Series. Vol. IV.: *Gynecology.* Edited by E. C. DUDLEY, A.M., M.D., Professor of Gynæcology, Northwestern University Medical School; and H. M. STOWE, M.D., Associate in Gynæcology, Northwestern University Medical School. Series 1913. Chicago: The Year Book Publishers. Pp. 230. Price 1.35 dollars.—This is one of a series of ten volumes issued at about monthly intervals and covering the entire field of medicine and surgery. They are published primarily for the general practitioner, and give a very complete *résumé* of the work done in the particular branch of medicine concerned. After chapters devoted to general principles, such as anæsthesia and operative technique and kindred subjects, the various infections and allied disorders of the genital organs are considered. In the same way a general survey is given of all the most recent papers in connexion with malformations and tumours, traumatisms, displacements and disorders of menstruation, and sterility. The value of the book is enhanced by the notes and annotations contributed by the editors, and the whole contains a great deal of valuable and interesting information on the recent progress of gynæcology.

Alimentary Toxæmia: Its Sources, Consequences, and Treatment. A Discussion opened by W. HALE WHITE, M.D., F. W. ANDREWES, M.D., VAUGHAN HARLEY, M.D., ROBERT SAUNDBY, M.D., Sir W. ARBUTHNOT LANE, M.S., and J. F. COLYER, M.R.C.S., L.D.S. London, New York, Calcutta, and Bombay: Longmans, Green, and Co. 1913. Pp. 380. Price, cloth, 4*s.* 6*d.* net.—The discussion on alimentary toxæmia at a series of special meetings of Fellows of the Royal Society of Medicine between March 10th and May 7th, 1913, was so fully reported in our columns at the time, Dr. Hale White's opening and closing addresses, together with the papers of Professor W. E. Dixon and Sir James Goodhart, being published in full, and an editorial review appended to the whole, that it is unnecessary here to say more than this reprint from the Proceedings of the Royal Society of Medicine is almost a text-book on the subject. The index will prove of particular service to those in search of information on this increasingly important topic.

Obstetric Aphorisms. For the Use of Students commencing Midwifery Practice. Eleventh edition. By JOSEPH GRIFFITHS SWAYNE, M.D. Revised and edited by WALTER CARLESS SWAYNE, M.D., B.S. Lond., M.D., Ch.B. Bristol. London: J. and A. Churchill. 1913. Pp. 216. Price 3*s.* 6*d.* net.—The editor, in response to many requests from friends, has come to the conclusion that there is still a place which a new edition of this work can fill with advantage, and therefore has revised and brought it up to date. The original form of the work has been retained as far as possible, but Dr. W. C. Swayne has endeavoured in his revision to retain the results of the immense practical experience and sound judgment of the author, even at the expense of modernity. This little book has no doubt proved useful to many hundreds of students since its first appearance some 20 years ago. In its modern dress it should be as helpful to present generations of students as it was to their predecessors.

MISCELLANEOUS VOLUMES.

TWO books on medical missions are before us. In *Thirty Years in Kashmir* (London: Edward Arnold. 1913. Pp. 316. Price 12*s.* 6*d.* net.) Mr. ARTHUR NEVE, F.R.C.S. Edin., who, with his brother Ernest, is a surgeon to the Kashmir Mission Hospital at Srinagar, founded under the auspices of the Church Missionary Society, gives us an account of his life and experiences. Mr. Arthur Neve went to Kashmir in 1882 to replace Dr. Edmund Downes, retired for ill health. Medical matters, however, form but a very slight portion of the book before us, which is chiefly concerned with journeys in the interior of Kashmir and the surrounding territories of Little Tibet (i.e., Baltistan), Gilgit, Chitral, and the Karakorum range of mountains. The book is somewhat sketchy, though it would probably be difficult for anyone who had not a vastly picturesque pen to convey to an ordinary reader the emotions called up by the awe-inspiring scenery of vast groups of mountains. "Surely the gods live here," said Kim, when he drew near to Kedarnath, one of the giants of the range, and the silences, the spaces, and the majesty of the land evidently affected Mr. Neve, although he gives but superficial descriptions. When he was in Gilgit Mr. Neve paid a visit to Captain (now Major) McCarrison's hospital, in which he was naturally deeply interested, and he rightly pays a warm tribute to Captain McCarrison's work on goitre, many reports of which have appeared in our columns. Concerning it Mr. Neve says: "Work such as his ranks, in my mind, as medical mission work, and must be of very real value in winning the liking and respect of the people for their European rulers." Mr. Neve modestly says next to nothing of his own work, and when on p. 242 he gives an account of three cataract operations performed under great difficulties in Little Tibet he omits to tell us the ultimate results; however, as is well known, the results of cataract operations by a skilled operator upon almost any native of India and the provinces to the north of it are extraordinarily good despite the want of skilled after-treatment. The book, when it comes to a second edition, would be much improved by a good map, for the sketch map appended is but of little use. Even with its deficiencies the work is worth reading as an introduction to a territory unknown to most of us.——*The Appeal of Medical Missions*, by R. FLETCHER MOORSHEAD, M B Durh., F.R C.S Eng. (London and Edinburgh: Oliphant, Anderson, and Ferrier. 1913. Pp. 224. Price 2*s.* 6*d.*), is an earnest appeal for the institution and support of medical missions, backed by many illustrations of the value of the work carried on by existing missions. To those who look back to primitive Christianity as a model for all time medical missions must appeal with special force, for the first missionaries on record—namely, St. Paul and St Barnabas—healed the sick and afflicted at Lystra and were thereupon considered to be gods in the likeness of men. Not the least valuable portion of Dr. Moorshead's book is the chapter dealing with the Failure of Medical Missions, in connexion with which he wisely says: "Thoroughness and efficiency should characterise every aspect of the work. Apart from these qualities, medical missions—we say it advisedly—will not pay." This chapter on Failure is naturally followed by one dealing with the Training of a Medical Missionary, which contains much sound advice. It is no part of our duty to discuss the theological side of the training, but we can at least say that we entirely approve of one canon laid down by Dr. Moorshead—namely, that the medical missionary should have "an intelligent acquaintance with the religious beliefs of the people amongst whom he is to labour." Christian missions are unfortunately carried on by very varying divisions of Christianity and are accordingly hindered by many unhappy divisions, but as regards the medical and scientific side of the matter would-be missionaries to whatever division of the Church or to whatever sect they belong will find profit in reading Dr. Moorshead's book. ——The Red Cross organisation may be described as in a sense almost a medical mission—at any rate, of humanity. In *The British Red Cross in the Balkans* (London, New York, Toronto, and Melbourne: Cassell and Co. 1913 Pp. 68, with 160 illustrations. Price 1*s.* net) we have some indication of the way in which the £40,000 subscribed by the public were spent in the humane work, and of the difficulties of medical service in modern warfare. The pictures are prefaced by a short introduction, and a frontispiece illustrates the presentation of medals to the Balkan war nurses of the British Red Cross Society by Her Majesty Queen Alexandra.

JOURNALS AND MAGAZINES.

The Philippine Journal of Tropical Medicine, Section B., Nos. 3 and 4, 1913.—The first of these numbers opens with an interesting account of the intestinal parasites encountered in 500 consecutive necropsies, with reports of cases by Dr. B. C Crowell and Dr. R. W. Hammach, respectively associate professor and instructor in pathology and bacteriology in the University of the Philippines. These observers found ascaris lumbricoides in 41·2 per cent. of the cases, trichuris trichiura in 34·4 per cent., and hookworm in 16·6 per cent. One case of ascaris in the appendix was found, and in two clinical cases of appendicitis trichuris was discovered in the appendix.—Captain Edward B. Vedder, of the United States Army Medical Corps, and Dr. Robert R. Williams contribute a description of some experiments concerning the beri-beri preventing substances, or vitamines, contained in rice polishings. They confirm the observations of C. Funk by isolating a crystalline base from an extract of the polishings. They also obtained confirmatory evidence of the hypothesis they had formerly advanced—namely, that wet beri-beri and dry beri beri are two distinct conditions, each being caused by the deficiency of a separate vitamine.—Mr. M. Bruin Mitzmain, of the Veterinary Division of the Bureau of Agriculture, Manila, writes upon the biology of the Tabanus striatus fabricus, the horse-fly of the Philippines, his paper being illustrated with a series of descriptive plates; and the same contributor furnishes also an article on the mechanical transmission of surra by this fly. It appears that this is the first time that the transmission of surra by this species of tabanus has been recorded.—Dr. P. K Gilman, of the General Hospital, Manila, gives an article on axillary teratoma, with illustrations —Mr. W. H. Boynton supplies a note on "strangles," or horse distemper, in the Philippines, and arrives at the conclusion that the affection is widespread among the horses of the islands.—Lastly, Dr. Oscar Teague, supplementing his previous work, gives a further note upon the influence of atmospheric temperature upon the spread of pneumonic plague.

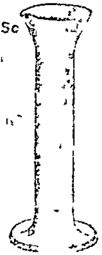
The second of the two numbers is wholly filled by an article entitled, "An Experimental Study of Entamœbic Dysentery," by Dr. Edward Linwood Walker, in collaboration with Dr. Andrew Watson Sellars, both of the Biological Laboratory, Bureau of Science, Manila. These investigations were undertaken in order to determine experimentally the etiological relationship of different species of amœbic organisms to endemic tropical dysentery, and included 60 feeding experiments with the different species of amœba and entamœba which have at one or another time been implicated in the production of the disease. It is claimed by the authors that the experiments have been of a kind never hitherto performed, and that as a result information of the greatest value for the diagnosis, treatment, and prophylaxis of entamœbic dysentery has been obtained.

Biometrika (Vol. IX, Parts III. and IV. October, 1913. Issued Nov. 8th, 1913). Edited by KARL PEARSON. Cambridge University Press. Price 20*s.* net.—We are amazed at the wealth of painstaking research that is enshrined in each issue of *Biometrika*. The issues before us contain an article on Anomalies of Pigmentation among Natives of Nyasaland, by Hugh Stannus Stannus, which is described as a contribution to the study of albinism. W. R. Macdonell follows with an interesting paper on the Expectation of Life in Ancient Rome and her Provinces, a note on which appears elsewhere. George McMullan and Professor Karl Pearson have a second paper on the Inheritance of the Deformity Known as Split-foot or Lobster-claw. Kathleen V. Ryley and Julia Bell, with the assistance of Professor Pearson, give a study of the Nasal Bridge in the Anthropoid Apes and its Relationship to the Nasal Bridge in Man. J. Arthur Harris discusses the Calculations of Intra class and Inter-class Coefficients of Correlation from Class Movements when the Number of Possible Combinations is Large. M. Greenwood jun., and J. W. Brown, from the Statistical Laboratory of the Lister Institute, publish a second study of the Weight, Variability, and Correlation of the Human

Visceral D. H. de Souza describes a series of painstaking investigations regarding the Measurements of the Pelvis with Special Reference to Obstetric Prediction, and arrives at certain formulæ for finding the obstetric conjugate and the transverse diameters in the living subject.

New Inventions.

AN IMPROVED URINE SPECIMEN GLASS.

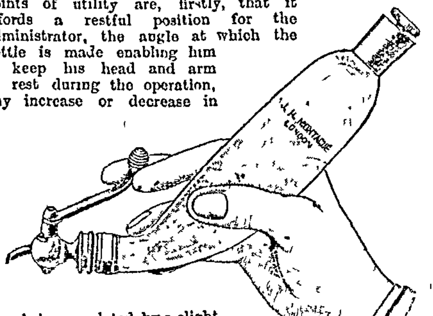


WE have introduced an improved specimen glass which will be found useful in hospitals and by insurance examiners and others who frequently examine urine The advantages are: (*a*) a small calibre, so that about an ounce of fluid will freely float an ordinary urinometer; (*b*) a blunt conical bottom to enable sediment to be collected, and for ease of cleaning; (*c*) a funnel shaped top to hold filter paper, thus obviating the use of a funnel; and (*d*) the wide and level top allows the glass to safely stand inverted for drainage.

The glasses are made and supplied by Messrs. Down Bros., St Thomas's-street, London, S.E.

ARTHUR H. RIDEAL, M D. Aberd.
W. OLIVER BEDDARD, M R C.S. Eng., L R C.P. Lond.

A NEW ETHER DROP BOTTLE.



THE general appearance and method of using this bottle can be gathered from the illustration. Its chief points of utility are, firstly, that it affords a restful position for the administrator, the angle at which the bottle is made enabling him to keep his head and arm at rest during the operation, any increase or decrease in flow being regulated by a slight movement one way or the other of the rudder which is worked by the first and second fingers; and secondly, that the anæsthetic can be com[illegible] from ten drops to the [illegible] induction very useful in [illegible] it enables the respirato[illegible] ether by degr[illegible] holding of br[illegible] or no waste c[illegible] on in larger [illegible] years at th[illegible] results.

The makers are Messrs. Montague of New Bond-street, London, W.

DOUGLAS JACKSON, M.R.C S. Eng., L.R C P. Lond.

Harley-street, W.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL

AN ordinary meeting of the Council was held on Dec. 11th, Sir RICKMAN GODLEE, the President, being in the chair.

The PRESIDENT reported his attendance at Chicago on Nov. 13th, on the occasion of the *First Annual Congregation* of the American College of Surgeons, and he also stated that he had visited the University of Toronto, and had received the degree of LL D.

The SECRETARY reported the death on Dec 7th, at the age of 83, of Mr. Sydney Jones, past member of the Council. A vote of condolence was passed, expressing the sympathy of the Council with the family and their appreciation of the late Fellow's services to the College

A report was read from the Board of Examiners in Anatomy and Physiology for the Fellowship, stating that at the examination concluding on Nov 14th 129 candidates were examined, of whom 44 were approved and 85 rejected.

It was resolved to grant diplomas of Fellowship to 28 successful candidates

It was resolved to grant diplomas of the Licence in Dental Surgery to 54 successful candidates

Mr. W. G. Spencer was re-elected a member of the Court of Examiners.

A report from the committee on the annual report of the Council was received and approved. It contained the following statements: "With regard to resolutions Nos. 1 and 2 the committee do not think that the Council are called upon to reconsider their decisions respecting the subjects to which they refer. As regards resolution No 3 the committee are of opinion that the satisfactory financial position of the College at the present time is sufficiently evident to any Fellow or Member who studies the published accounts."

A letter was read from Lord Sydenham to the President stating that "the Royal Commission on Venereal Diseases are desirous of obtaining the cooperation of the Royal College of Surgeons in securing the best evidence available on the questions referred to the Commission for their investigation, and they would welcome any suggestions from you as to suitable witnesses to be called, especially respecting the more indirect effects of syphilis in producing organic disease and upon the subject of remedial measures" In [illegible] nominated Mr D'Arcy Power, surgeon to St. [illegible] Cross, president [illegible] d Kingdom, and [illegible] of the Royal College of Surgeons of England, to give evidence on these matters.

A letter was read from Sir Henry Morris, reporting the proceedings of the General Medical Council at its late session. The best thanks of the Council were given to Sir Henry Morris for representing the College on that Council.

The JUNIOR VICE PRESIDENT reported the delivery of the Bradshaw Lecture on Gunshot Injuries of the Arteries by Mr G H. Makins, C B, on Dec 5th The best thanks of the Council were given to Mr. Makins for his lecture and he was requested to publish it

The College, including the museum and library, will be closed from the evening of Wednesday, Dec. 24th, until the *following Monday morning.*

A MUNIFICENT THANKOFFERING.—To mark the coming of age of their elder son, Lord Titchfield, and to celebrate their silver wedding, the Duke and Duchess of Portland have offered to Mansfield Hospital a sum of about £5000 to liquidate the debt on the King Edward memorial wing of the institution.

BRISTOL GENERAL HOSPITAL.—At two recent [illegible] and the annual meeting [illegible] terms [illegible] George [illegible] latter [illegible] d over 4000 articles of clothing, bed-linen, &c, as well as a sum of £112. Both of these figures represent the highest totals yet attained.

THE LANCET.

LONDON: SATURDAY, DECEMBER 20, 1913.

The University of London: The Question of Site.

Mr. J. A. PEASE, President of the Board of Education, on the occasion of the Founders' Day Celebration at Birkbeck College on Dec. 10th, made a statement, in continuation of previous pronouncements,[1] on the subject of the future of university education in London which was full of importance for a great number of our readers. For questions of medical education in the metropolis, the centre for the administration of the work of the Royal medical corporations, and the seat of a famous group of hospitals and of a university owning distinguished medical graduates all over the world, have definite interest for the majority of our profession. Mr. PEASE placed in the front of his observations the question of the formation of a university quarter, and it is perfectly clear that much of the immediate future of the University of London may depend upon the selection of a site for any new buildings that have at once to be erected. A distinct recommendation of the recent Royal Commission, as well as the general spirit of the report of that body, makes the acquisition of a site whereon a university quarter can be properly developed a necessity, and it will be necessary in choosing that site to estimate carefully, not only what is wanted at once, but what will be wanted when, under revivifying processes, expansion along lines that are as progressive as academic begins to take place.

The three things to be considered about any site that may be available are the opportunities that it offers for such development, economy in price, and dignity in position; and we put them in what we consider to be the order of their importance. It must never be forgotten that the Report of the Royal Commissioners on University Education in London did not plan in their recommendations so much a machine to start at once in perfection as one which, while discharging its functions now with all the efficiency which a considerable series of compromises can allow, should provide for the possibilities of future expansion. The Commissioners recognised that there must be a great deal of harmony between opposing interests before a scheme working to something like the general satisfaction of all concerned could be set in motion, and it seems to us essential that the same reasonable frame of mind must be employed in choosing the *locale* of the new University quarter. It must be selected with an eye to the possible rearrangement of some existing institutions and to the addition of others. Therefore we regard the project of making over Somerset House, the most distinguished palace in London, to the University with considerable distrust, although the idea was on Tuesday last approved by the London County Council. It does not seem to us that a quadrangle of no vast size, inexorably bounded on three sides by main roads of the utmost importance and on the fourth side by premises whose confiscation is unthinkable, the whole standing on one of the most valuable pieces of land in the world, makes a good central site for a university whose intention it is to develop in many directions. Somerset House is dignified, but dignity is the third necessity only, and need not be bought at a high price when it will be within the power of the University to achieve it by well-directed effort, instead of buying it readymade. No one suggests that the Somerset House site could possibly be economical. In balancing the claims of the suggested site between Westminster Bridge and Waterloo Bridge with those of the two suggested sites in Bloomsbury, the question of price must play a part in the decision. Where the London County Council is the owner of a possible site generous terms might be obtained, for the Council bears part of the burden of supporting the University of London already, and takes a deep interest in its prosperity; while it will naturally be glad, in fulfilment of its æsthetic duties towards the citizens at large, to fill a conspicuous spot with the new buildings of such an institution as the University. Dignity is a great thing, and no institution more strongly than a great university has a right to demand the prestige of dignity in the outward symbols of its corporate life. But the University of London can attain to its dignity by not standing too much thereon. There is no necessity for a university, when making a new start, to be completely equipped with palaces in commanding positions. The future of the University should not be risked by any waiting for this kind of endowment, and delay for such a purpose would be out of keeping with the spirit of the report of the Royal Commission. The most dignified university buildings are those which have acquired their pleasing and perhaps imposing character by honourable use for the best purposes and by gradual additions to meet growing wants. Whether Bloomsbury, Kensington, Lambeth, or elsewhere houses the new University quarter, the essential thing is that room for evolution be found. We cannot believe that the teachers in the various faculties will desire in any majority to remain at Kensington.

Convenience must be regarded as a part of economy. Land whereon to build a University quarter would certainly be cheaper in Streatham than in the Strand, in Barnet than in Bloomsbury. But the new University quarter must have an academic and educational reason for its position; proximity to potential playing fields would not make an otherwise inaccessible site economical, even though it were cheap. The Faculty of Medicine, when higher medical education in London is organised, may have less immediately to say to the locality of the central buildings than any of the other faculties, because higher medical education will be undertaken in close connexion with the hospitals. The site of the metropolitan hospitals is in the majority of cases fixed for the time being; while when a change of locality is forced upon any of these great charities other considerations must outweigh the claims of academic or civic pride in fine buildings prominently placed. Medicine and surgery can be intimate parts of a university education if the hospitals that are essential to a medical faculty are connected to the necessary extent of intimacy with the university; geographical intimacy is not so much required. But the medical faculty, being one of the most important constituents of the University of London, is on general grounds deeply anxious that the University should possess an adequate central home; and it may be part of the give-and-take demanded of some of the medical schools and scientific institutions that they should acquiesce, in return for corporate advantages, in the choice of a central site of which they do not wholly approve.

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[1] THE LANCET Nov. 22nd, 1913, p. 1482.

Precautions Concerning Celluloid.

THE Departmental Committee which was appointed in October, 1912, "to inquire and report as to the precautions necessary in the use of celluloid in manufacture and the handling and storage of celluloid and celluloid articles" issued its report last week, and we may say at once that it shows a very intelligent and impartial treatment of the manifold questions which the subject presents. The chairman, the Earl of PLYMOUTH, was supported by men well qualified to deal with the particular points which needed inquiry in regard to rendering the handling and storage of celluloid freer from danger than has been the case in the past. The committee included Captain MAURICE B. LLOYD, H.M. Inspector of Explosives; Dr. JAMES S. DOBBIE, the principal of the Government laboratories; Mr. H. M. ROBINSON, Deputy Chief Inspector of Factories; Mr. EDWIN O. SACHS, chairman of the executive of the British Fire Prevention Committee; and Mr. J. OLLIS, chief officer of the public control department of the London County Council; Mr. C. G. MARKBREITER, of the Home Office, acting as secretary. As the minutes of evidence show, many pertinent questions were put and the answers given were in the main instructive. The witnesses were frank and also well selected, including amongst them representatives of the trade in celluloid, many persons of scientific standing, and officers of fire brigades. The committee visited premises in London and elsewhere to see the conditions under which celluloid is made, worked, and stored. They also made a practical study of the operation and effect of the regulations in force in France and Germany. Dr. DOBBIE carried out many important experiments as to the nature and properties of celluloid, while the British Fire Prevention Committee placed at the disposal of the Departmental Committee the results of an investigation made by them.

We have given considerable practical attention to this matter. The danger in the use of celluloid was prominently brought into notice in THE LANCET early in the year 1892, when a number of experiments were made in our laboratory illustrating the alarmingly inflammable nature of the substance. We believe these were amongst the earliest experiments published calling attention to the risks which the use of celluloid articles entailed. In 1898 a serious incident was brought to our notice in which a hair-fastener or comb made of celluloid had ignited in contact with hot tongs, used in the curling of the hair. Several experiments were made with similar hair combs obtained in the open market, and the results were of so startling a character that we were led to urge that manufacturers should be compelled to stamp plainly on every article made of or containing celluloid the words "highly inflammable." In 1902 we repeated this warning in view of a report which was published in THE LANCET on "Burns from Celluloid," by Sir ALEXANDER OGSTON, Regius professor of surgery in the University of Aberdeen. Since the date of our work the applications of celluloid have increased very much. It has been estimated that celluloid in one form or another is to be found in between 40 to 50 per cent. of the shops in certain districts of London. A list giving the uses to which celluloid is put, if extracted from the catalogue of a big shop, would contain some 200 articles classified under the headings of (1) dress and personal; (2) fancy goods; (3) musical; (4) sports and toys; (5) stationery and office; (6) scientific and surgical; (7) factories and shops; and (8) lacquers. This list, however, does not include the cinematograph film. This industry shows an enormous development. In June, 1912, there were 32 producers of films in this country, and there were 80 firms engaged in renting or letting out films for hire and between 4000 to 5000 cinematograph theatres. Stocks increased and the celluloid danger grew in magnitude. Accidents were no longer confined to small domestic occurrences, such as were reported in THE LANCET 20 years ago; they became classed in 1900 as serious fires involving the loss of many lives. A terrible disaster last year in Moor-lane in the City of London, in which nine girls perished in the flames of a fire started by celluloid, roused a general feeling of indignation that such awful liabilities should be allowed to exist, and that apparently no attempts had been made to bring the storing and manufacture of celluloid under a system of public control. The demand for an official inquiry was made, and was promptly acceded to, with the result now before us.

We hope that the recommendations of the Departmental Committee will receive equally speedy attention, so that safeguards may quickly be provided in connexion with the use of celluloid in manufacture, and the handling and storage of celluloid and of all articles made from it. The danger to the purchasing public, the danger in shops in which celluloid articles are exposed for sale, the danger involved in conveyance, the danger of warehousing large stocks, the danger of the cinematograph film, have all received careful attention at the hands of this committee, and the precautions which are laid down seem to us to be reasonable and to be warranted by the teaching of disastrous experiences. We agree that all domestic articles made of celluloid should be declared. The committee consider that they should be marked with the words "Celluloid, inflammable." We made the same suggestion 20 years ago. We agree that warnings should be issued to shopkeepers as to the dangerous properties of celluloid. Often at Christmas time many shops swarm with celluloid toys that the immediate present is a date when such a warning should be issued. We agree also that there should be certain restrictions in regard to storage. There was actually found on one set of premises in London over a ton of celluloid, while the site of storage has its risks as well as the bulk, for films have been secreted underneath an hotel and in domestic flats. It is evident that the conditions under which this business is carried on are quite unsatisfactory. Celluloid is an exceedingly useful substance, and has been turned to human account with advantages in very many directions, but it can never be allowed to masquerade as an innocent material. There is much ignorance of the dangerous nature of celluloid which this report should go far to remove, and the recommendations in it, for which we may claim to have laid some foundation, should be adopted.

Annotations.

"Ne quid nimis."

THE ISTHMIAN CANAL AND DISEASE.

It is now accepted that without our present knowledge of malaria the Isthmian Canal could not have been constructed, but it is less well understood that the making of the canal has furnished opportunity for acquiring greatly increased information about the disease, especially with regard to its epidemiology and administrative control. Some of the valuable results obtained are to be found in a small pamphlet issued by the Isthmian Canal Commission and written by Dr. S. T. Darling, the chief of the laboratory of the Board of Health.[1] It is a short pamphlet, but it contains the results of much work and is of interest to the physician, the administrator, and the investigator. The investigator will find an account of the 11 species of anophelines found during the past eight years in the canal zone. Of these the most important as a transmitter of malaria at the present time appears to be anopheles albimanus. The methods found best for the collection of larvæ, the breeding and feeding of mosquitoes, and how best to secure biting and infection are described. It was found that at least 50 per cent. of the parasites were destroyed in the mosquito by the polymorphonuclear cells of the ingested blood, and that the food contents of the gut of the insect greatly affected the development of the parasite. The physician will learn that though a patient is treated with quinine the amount present in the blood does not prevent normal development in the mosquito, but there is a steady diminution in the number of the parasites, whether crescents or gametes, in the circulating blood, accompanied by an increase in large mononuclear cells. It was found that a treated patient should not be discharged until the number of gametes was reduced well below the limit of infectiousness; a patient with 12 gametes per c.mm. could act as a carrier, and these cases were of the utmost importance to the administrator in delimiting malaria. An investigation into latent untreated malaria which contributes so largely in every tropical community to the preservation of the malarial parasite was made; it was found that about 10 per cent. of the inhabitants were infected. Of interest to the administrator also are the results of experiments on the efficiency of larvicides, the mesh and material of wire screening, the effect of salt and sea water on larvæ, and the action of various agents which may be employed to destroy the food of the larvæ. The work on malaria does not preclude investigation of other diseases, as is evidenced by the interesting account of entamœba tetragena by Dr. Darling,[2] but enough has been said to show how fruitful is the work of the Department of Sanitation in the Canal Zone.

THE PHYSICIAN IN ENGLISH HISTORY.

To the student of medical history the subject of the medical man outside of medicine is one of great interest and full of suggestiveness. The very nature of the training in medicine impresses upon a man—one, that is, who is in any sense "called" to the study of medicine—a character, a mode of thought, a particular outlook, which more or less insensibly colours his attitude towards all the relations of life. Thus it arises that the careers of medical clerics, medical lawyers, medical administrators, medical soldiers and sailors and adventurers, medical artists and writers of imaginative literature, have formed subjects of collective study at different times. A recent and most valuable study of this character was the Linacre lecture[1] this year, by Dr. Norman Moore, in which the author endeavoured to trace the influence exercised by the physician on the nation at large, other than that arising out of his scientific discoveries and their direct application. Starting with Cynifrid, who is mentioned in Bede's "Historia Ecclesiastica Gentis Anglorum," as the medical attendant on the Abbess Etheldreda of Ely (obiit 679), and as being present at her disinterment 16 years later, Dr. Moore discusses the death of William the Conqueror, the physician ecclesiastics of the Middle Ages, the establishment of the London College of Physicians in 1518 by King Henry VIII. at the instance of six physicians, of whom the prime mover was Linacre, and the foundation of the Royal Society. He refers to Francis, Caius, Sir Hans Sloane, William Gilbert, Sir William Petty, Thomas Lodge, Cowley, Garth, Arbuthnot, and others to illustrate the share taken by members of the medical profession respectively in the revival of Greek learning, in additions to science—not merely medical science, but science in general—in establishing hospitals, in building up medical education, and in contributing to English literature. Such studies are not only very interesting, but are of real value in making us comprehend the stability of our foundations as an art and a science.

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[1] Studies in Relation to Malaria. By Samuel T. Darling, M.D., chief of laboratory of the Board of Health, Department of Sanitation, Isthmian Canal Commission. Second edition.

[2] Budding and other Forms in [illegible] of Entamœba Tetragena, [illegible] Histolytica, simulating the spore cyst forms [illegible] il., pp. 495-506, May, 1913. by S. T. Darling, M.D. Archives [illegible]

[1] The Physician in English History (Linacre Lecture, St. John's College, Cambridge). By Norman Moore, M.D. Cambridge: University Press. 1913. Pp. 87. Price 2*s*. 6*d*. net.

CHRISTMAS AND BURNING ACCIDENTS.

As Christmas approaches we would remind parents and organisers of seasonable entertainments of the terrible accidents which have arisen in the past owing chiefly to the inflammable nature of cotton-wool. Children and others dressed up in muslins and light materials and decorations of cotton-wool to imitate snow, should not be allowed in any room where there are unguarded fires or unprotected lights of any kind. Youths of the present day light cigarettes at the smallest opportunity and on occasions which 20 years ago would certainly not have been made use of for smoking, and those indulging in this silly habit should be sternly checked in any room or place where costumes are being worn of the nature indicated. The safest plan is, of course, for parents to insist that their children shall not take part in entertainments at which the usual inflammable materials are present. This may be a counsel of perfection, but, at any rate, reasonable precautions can be taken, and means of extinguishing fire, should it break out, can be provided.

THE URINARY REACTION OF WEISZ.

THIS reaction was originally brought into notice in 1910 as preferable in regard to simplicity to the diazo-reaction of Ehrlich. It has the further advantages that it is never observed in normal urines, and is not simulated by various drugs such as creasote, laudanum, and naphthalene, as may be the case with the diazo-reaction. Neither is it nullified by substances artificially added to the urine. The technique consists in diluting the urine with twice its bulk of distilled water; three drops of a 1 per 1000 aqueous solution of permanganate of potash are added and the mixture shaken. If the reaction is negative the liquid does not change colour, or only becomes slightly brownish; if positive it assumes a greenish yellow or golden colour. According to Weisz the reaction indicates that the patient is the subject of tuberculosis in an advanced stage, so that it has a double significance, diagnosing that the disease is tubercle and prognosing that the state of the patient is grave. Dr. E. Salustri has recently published in the *Policlinico*[1] the results of his investigations on this subject made in Professor Ferrannini's clinic at the University of Camerino. He found that when in a patient who was seriously ill but the exact nature of whose disease was doubtful the urine showed the Weisz permanganate reaction in a pronounced manner, this fact points to the definite conclusion that the disease is dependent on Koch's bacillus and is in a very advanced stage. On the contrary, the absence or feeble degree of the reaction excludes tubercle as a cause without impugning the marked gravity of the disease. When the affection from which the patient is suffering is of medium or slight gravity the presence of this reaction does not afford precise evidence that it is due to tubercle, but is useful as a confirmation that the disease, whatever its nature may be, is of little gravity. In other words, the significance of the reaction in respect to the diagnosis and prognosis of tubercle is much more important and marked in patients in whom the reaction is either invariably absent, or, on the other hand, is constantly present in a marked degree.

THE LAST ILLNESS OF MICHAEL BARCLAY DE TOLLY.

THE recent celebrations of the centennial of Napoleon's collapse after the Russian campaign have again brought into prominence the leading personalities of that period. Eminent among these was Prince Michael Barclay de Tolly, whose Fabian policy was largely responsible for Napoleon's inability to crush the Russian army. In the *Petersburger Medizinische Zeitschrift* of Nov. 15th Dr. Arved Bertels has discussed the nature of Barclay de Tolly's last illness, his sources of information being the reminiscences of an eye-witness and an account of the necropsy found in the Government Library in Riga. The reminiscences published in 1887 were by Barclay de Tolly's adopted daughter, who was 14 years old when she accompanied him on his last journey in 1818. At this date he had been granted two years' furlough to travel abroad for his health. During his journey he had frequently to stop his carriage on account of severe pain in the chest. Supported by his physician, he would walk a few steps, and when the pain had passed he would continue his journey. After travelling through Riga, Memel, and Tilsit he had almost reached Insterburg when his physician declared him incapable of advancing farther. He was lodged at a small hunting-lodge, where he died on the same night. Physicians were summoned from Königsberg and Berlin to embalm the body. Barclay de Tolly died on May 16th. In a document dated May 29th, 1818, Dr. Fahrenhorst, who signs himself "Königl. Preuss. Kreiss-Physikus," gives an account of the necropsy. The liver was so friable that it broke on pressure. The much enlarged gall-bladder contained a slimy fluid instead of bile, and 25 gall-stones of various sizes. The largest stone was impacted in the common bile-duct so as almost to prevent the passage of a bristle. The spleen was much enlarged and fell to pieces on palpation. A small collection of pus was found in the right kidney. The chest contained two "stof," or about 2400 c.c. of water. The left side of the heart was small and contained many polypi. The right side of the heart was much enlarged, and the aortic valve much ossified. The report of the necropsy concludes with the remark that no medical skill could have saved the patient. Probably the state of the liver and spleen was largely due to post-mortem changes, as the necropsy must have been performed a considerable time after death. Dr. Bertels thinks that the "polypi" in the left heart were nothing but blood clots, and that the "abscess" in the kidney must have been a small fibroma, hypernephroma, or adenoma—tumours which are often found in the kidneys in the course of a necropsy. It is certainly conceivable that the pain in the chest may have been due to biliary colic, for it is now known that an impacted gall-stone may cause pain referred to the chest and not to the gall-bladder or bile-ducts. But it is doubtful whether the conditions observed in the abdomen can alone account for the patient's death. It is true that gall-stones may prove fatal when peritonitis, cholæmia, or cholangitis supervenes. The two former may be excluded, for the report of the necropsy says nothing of peritonitis or jaundice, the absence of which suggests that the impacted stone cannot have completely obstructed the flow of bile. It is possible that cholangitis may have been present, but overlooked owing to the considerable interval between death and the necropsy. Yet Dr. Bertels regards this explanation as unconvincing; and he is inclined to trace the pain in the chest and the patient's death to sclerosis of the coronary arteries of the heart. These were apparently not examined after death. The facts that Barclay de Tolly continued his journey in a carriage till a few hours before death and that there was no record of fever suggest that death was due rather to heart disease than to cholangitis. The hydrothorax was probably the outcome of cardiac weakness during the last hours of life rather than of pleurisy or a chronic stasis. Thorough as is the report of the necropsy, this case illustrates in a striking manner the advances made during the last 100 years in our knowledge of morbid anatomy.

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[1] 1913, xx., Fasc. 43, p. 1730. Rome: Via del Tritone.

AN OPEN SAFETY-PIN FOR TEN DAYS IN THE ŒSOPHAGUS OF A BABY.

In the *South African Medical Record* of Oct. 11th Dr. T. G. Blackburn has reported a remarkable case in which an open safety-pin remained for ten days in the œsophagus of a baby aged 3 months without producing any symptoms. The child was admitted into the Provincial Hospital, Port Elizabeth, with the history that she had swallowed a safety-pin. There were absolutely no symptoms; she was bright, happy, and laughing, and took the breast as usual. On the next day a radiogram was taken and clearly showed the pin fixed in the œsophagus, open, with the point upwards, about opposite the middle of the sternum. Interference was considered dangerous. Extraction upwards could be performed only if the point could be grasped and so prevented from doing irreparable harm to the œsophagus—a feat of manipulation practically impossible in such a narrow space. Trying to dislodge the pin had also its dangers, because if the bougie passed beyond without dislodging, on withdrawal it might drive the point into the œsophageal wall. Taking all the points into consideration, as well as the fact that the child was suffering no inconvenience, it was decided to wait, carefully watching the condition daily on the fluorescent screen. A week after admission the child first showed symptoms. She had crying bouts and was more restless, though there was no rise of temperature or vomiting. This condition continued for three days, and as the pain was thought to be due to commencing ulceration of the œsophagus it was decided that something must be done. She was placed on the X ray couch with the tube underneath and the fluorescent screen on top. A metal bougie large enough to fit the œsophagus was then passed till it was seen to touch the blunt arm of the pin. On applying slight pressure the pin was dislodged and passed down behind the cardiac shadow and appeared in the stomach. The pin was now in an accessible position, but it was decided to give Nature another chance and to see whether the pin would turn shut end down and be passed per vias naturales. Two days later it was seen to be fixed at the pylorus open end down. As nothing further was to be gained by waiting, the stomach was opened through a median incision made just below the xiphoid cartilage. The stomach and pin were brought to the incision. A slight incision over the blunt end allowed easy extraction. Three fine sero-muscular sutures closed the stomach opening and purse-string suture around this was used for security. The child stood the operation well and six hours afterwards took the breast. Recovery was uneventful.

THE EXPECTATION OF LIFE IN ANCIENT ROME

The study of the classics has during the last 30 years developed from what may be called a purely literary investigation—i.e., questions of text, grammar, and style—into the study of social and human problems. Thanks to the labours of scholars such as Dill, Glover, and William Arnold the society of the Empire is brought before us as a living society, and as one which only too closely in some ways resembles our own to-day. Mr. Raper, in the *Classical Review* for February, 1913, evolved an ingenious and charming theory about Vergil as a priest of Apollo (with a possible strain of Jewish blood), and a descendant of that Thracian Maron who provided Odysseus with the potent wine by means of which he subdued the Cyclops; while Mr. Mackail, in the current *Journal of Roman Studies*, has shown in his own brilliant manner the close connexion between Vergil and Roman studies, his accurate archæology, his advocacy of "small holdings," and his treatment of other economic problems. The weariness of life in a great city, the crowds, the dirt, the struggles of those who really were in "the smart set" to maintain their position, and of those who were not yet numbered in that blissful company to attain to it, are contrasted with the peaceful life of the country both by Vergil in his gentle, saintly manner and by Juvenal in a style very much the reverse. Confirmation of the unhealthiness of life in ancient Rome is afforded by a study of the Latin inscriptions, and such study has given birth to a most interesting paper by Dr. W. R. Macdonell which appears in *Biometrika* for October. Dr. Macdonell searched those portions of the Corpus Inscriptionum Latinarum which refer to Rome, Hispania, Lusitania, and Africa respectively. The Roman inscriptions he divided into two classes—namely, the civil population and the soldiers in garrison. As regards the former, Dr. Macdonell gives curves comparing their expectation of life, so far as it can be calculated from ages at death, with the curves shown in the Registrar-General's report for 1891–1900. The difference between the modern curve and that of Rome is enormous at first, while the Roman curves for both sexes are practically level for the first 40 years of life. For this period the Roman's expectation of life was roughly 23 years, while the English curve shows at birth an expectation of about 57 years, at 20 years of age an expectation of 40, while between 50 and 60 years the modern and ancient expectations coincide. After 60 the ancient expectation is better than the modern, which Dr. Macdonell accounts for by the selection of the young, which is obvious from the heavy mortality among them. As to soldiers in garrison, curves could not be plotted for lack of material, but the inscriptions show that their expectation of life was inferior to Roman males, and between 25 and 50 years to Roman married women. When the figures for Hispania and Lusitania are taken, the expectation of life in childhood rises at once, while two deaths are noted at the age of 115 and one at the age of 125. For the first 30 years of life provincial expectation is far higher than in Rome. It decreases until 45, and from 45 to 75 is about the same. As regards the province of Africa expectation of life was fairly comparable, if somewhat lower, with the English curve up to 40; after that age it was superior. As regards Rome it was superior at all ages. It is worth noting that "senectus" was considered by the ancients, notably Cicero in his "De Senectute," to begin about the forty-sixth year of life.

RECURRENT INTUSSUSCEPTION AFTER OPERATION.

RECURRENCE of intussusception after operation has rarely been observed. In *Guy's Hospital Gazette* recently Mr. Edward M. Mahon reported the following case. A boy, aged 3 years, was admitted on July 15th, 1913, for abdominal pain, vomiting, and the passage of blood per rectum. In November, 1910, he had been admitted with the same symptoms. Intussusception was diagnosed, and Mr. C. H. Fagge operated and found the ileum intussuscepted into the ileum and thence through the ileo-cæcal valve into the colon. On reduction the gut was found to be very black, and it was doubted whether it was remediable. The intussusception was said to be of 11 hours' standing. The history of the present attack was that the patient had been perfectly well since the first intussusception until the day of admission. At 9.30 A.M. a sudden paroxysm of abdominal pain occurred. It lasted about four minutes and caused him to fall to the floor. Vomiting accompanied the pain. After the attack he felt quite well again, but during the next eight hours about 24 similar attacks occurred. At 2.15 P.M. tenesmus accompanied a paroxysm of pain, and blood was passed. With every subsequent paroxysm there were tenesmus and passage of blood. Eight hours after the first attack he was admitted. The abdomen was quite soft and moved well on respiration, but there was some tenderness beneath the right costal cartilages. At first nothing could be felt in the abdomen, but during a palpation a sausage-shaped lump appeared below the right costal margin and disappeared. On rectal examination nothing abnormal could be felt, but on withdrawing the finger it was found covered with blood. Intussusception was diagnosed. Mr. E. C. Hughes operated 11¾ hours after the onset of symptoms. Under the anæsthetic a distinct mass was felt below the right costal cartilages. The abdomen was opened through a rectus incision and the cæcum was found missing from the right iliac fossa. There was a mass high in the right hypochondrium. This proved to be large intestine with the ileum passing into it, and appeared to contain ileum, cæcum, appendix, and ascending colon. Reduction was easy, the colon first appearing, then the appendix, cæcum, and ileum. The last part of the reduction was ileum from ileum. The intussusception began two inches from the end of the ileum. Nothing was found to account for its origin. Rapid and uneventful recovery ensued. Only six cases of recurrence of intussusception in children after reduction by laparotomy appear to have been recorded. Mr. Charles P. B. Clubbe, in his "Diagnosis and Treatment of Intussusception," writes: "A recurrence following supposed complete reduction by injection or inflation does occur and must always be expected. But a recurrent invagination coming on immediately or soon after reduction has been effected by laparotomy is very rare. It did not occur in any of my cases. I have operated on two children for recurrence of intussusception coming on two and six months after operation." Mr. Clubbe's series consisted of 144 cases, and extended over a period of 13 years. Messrs. Adams and Cassidy in "Acute Abdominal Diseases" record only one recurrence in 100 cases, and this occurred five weeks after operation. Mr. D'Arcy Power in "Some Points in the Anatomy, Pathology, and Surgery of Intussusception" writes: "An intussusception sometimes recurs after it has been reduced by abdominal section, but recurrence is less usual after an abdominal section has been done than when reduction has been brought about by irrigation. In a few cases the intestine has remained so œdematous that the tumour has been felt after the wound has been closed, leading the operator to suppose that invagination has recurred. Such a condition may be distinguished from true recurrence by the fact that the swelling rapidly disappears, and with it the symptoms of obstruction. This is a rare accident, but Sir A. Pearce Gould met with a rarer one in which he performed laparotomy twice at an interval of three months for the reduction of two separate intussusceptions in the same patient." In the "Index Catalogue of the Library of the Surgeon-General's Office" are two references to recurrence of intussusception after operation, the intervals being 3½ months and five weeks respectively.

KING EDWARD'S HOSPITAL FUND FOR LONDON: ST. GEORGE'S HOSPITAL AND THE DISTRIBUTION COMMITTEE.

THE Governors and General Council of this Fund held a meeting on Friday morning, Dec. 12th, in St. James's Palace, the Duke of Teck presiding, at which the splendid financial position of the Fund was well revealed. Lord Rothschild, the honorary treasurer, reported that the amount received by the Fund up to Dec. 6th, after payment of expenses, was £150,000, while the fund had a sum of £170,000 on deposit with Messrs. Baring Brothers. He informed the governors that under the will of the late Sir Julius Wernher, by which the fund received one-twelfth of the residuary estate, a sum in all of £465,000 would shortly be received. £151,000 were placed in the hands of the committee for distribution among applying charities, and the details of the awards to the various hospitals, which have been published in the press, show great care in consideration of the various facts that dictated the awards, while the distribution committee are careful to draw attention to the fact that absence of a grant does not necessarily imply dissatisfaction with the charity. The committee report that the authorities of St. George's Hospital have now rendered their accounts for the year 1912 in an amended form, reducing "the amount paid to the medical school out of the general fund of the hospital, in respect of specific work done for the patients, to a sum not exceeding that which was charged prior to the changes which led to the suspension of the Fund's grants." The committee therefore recommend a grant of £3000 to the hospital "subject to a certificate from the chairman of the hospital that the accounts for 1913 will be in conformity with those now presented for 1912." The Mount Vernon Hospital for Consumption does not now appear in the list since the hospital at Hampstead has not applied for a grant, and that at Northwood, being no longer a branch of any hospital applying for a grant, has been regarded as outside the area to be dealt with.

EARLY OPERATION IN CASES OF APPENDICITIS.

OUR Swiss Correspondent writes: "At the request of the newly founded Swiss Surgical Society Professor F. de Quervain, of Basle, collected several thousand reports on cases of appendicitis operated on in the years 1908 to 1912. As Switzerland still loses 400 of its inhabitants yearly from appendicitis, this collective report, published in the *Korrespondenzblatt für Schweizer Aerzte* on Dec. 6th, deserves attention. In Professor Sahli's Bernese statistics of 1895 still 21 per cent. of all the operation cases died; the total mortality, however, was only 9·6 per cent. This referred to 7213 cases. Professor de Quervain finds for his 6116 cases the operation mortality was reduced to 8·1 per cent., the total mortality having sunk to 7·8 per cent. In 404 operation cases at the Basle clinique from 1910 to 1912 the mortality was reduced to 6·2 per cent., the total mortality being 5·7 per cent. This was principally due to the fact that 164 cases could be operated on the first day, 104 cases on the second day. How much depends on early operation the following data prove:—

	Cases.	Mortality.
Operation on first day	1723 ...	0·7 per cent.
,, second day ...	1389 ...	4·7 ,,
,, third ,, ...	788 ...	10·7 ,,
,, fourth ,, ...	1197 ...	21·2 ,,

The length of stay at the hospital increased according to the later date of operation from 17 (first day) to 21, 31, and 40 days (for the fourth day). At the Bernese clinique only 6 patients succumbed out of 299 acute cases undergoing operation, and these had only entered after the fourth day. All the cases undergoing operation on the first and second days of the attack were cured."

PELLAGRA IN IRELAND.

WE publish in another column a further contribution to the study of pellagra in the United Kingdom. The case which Dr. F. E. Rainsford reports from the Stewart Institution at Chapelizod, co. Dublin, seems to have been a characteristic instance of the disease, pursuing, moreover, as has so frequently happened with the earlier cases of an advancing disease, a comparatively acute course and ending in death. The description of the symmetrical dermatitis, the gastro-intestinal symptoms, and the nervous symptoms can leave no doubt as to the accuracy of the diagnosis. In this case, further, as in the majority of the English cases hitherto reported, the patient was the inmate of an asylum, to which she had been admitted before any soma symptoms made their appearance. It cannot said that the mental features of the case present any unusual or exceptional element; and the c cumstances, therefore, do not support the vi of the mental symptoms of pellagra being any way pathognomonic. Dr. Rainsford d not mention if any necropsy was conduct and further details as to the previous environme and mode of living of the patient would add interesting manner to the contribution. We a glad to think that the case has not be missed, that several physicians concurred in diagnosis, and that it has duly been recorded medical literature. In this way interest is certain augment, and both the medical profession and t public whom they serve will ultimately reap t benefit of increased knowledge and hopefulness treatment.

AMBULANCE SERVICE FOR THE METROPOLI

IN regard to the scheme prepared by the Met politan Asylums Board, at the request of the Lond County Council, for the provision of a str ambulance service for the metropolis, the Gene Purposes Committee reported to the Council Dec 16th that it could not recommend the adopti of the scheme on the grounds that it was not accordance with the Metropolitan Ambulances Act 1909 and that it was proposed that the administrati should be wholly in the hands of the Asylums Boa while the Council bore the cost. There was precedent for the delegation by the Council of i powers in such a way. As the Board had no pow to incur any expenditure in the matter the Coun would have to reimburse, whether it approved the expenditure or not. The committee had come to the conclusion that the organisation and provision of an efficient system must rest with the Council. A certain number of authorities had ambulances which would be placed at the service of the Council, but these were insufficient, and additional provision must be made. During the meeting of the Council on Dec. 16th a report was circulated containing the proposals of the committee. The report was of an entirely tentative character, and indicated the intentions of the committee to establish ambulance stations with motor ambulances in six outlying districts, with one station in central London. It was thought that the service might be carried on under the supervision of the chief officer of the Fire Brigade. In addition to motor ambulances the committee proposed to provide hand ambulances or litters for carrying injured persons for short distances. The committee hoped after the Christmas recess to submit a detailed scheme, with estimates of cost.

THE RUMPEL-LEEDE PHENOMENON IN SCARLET FEVER.

NEARLY three years have elapsed since Rumpel and Leede first described in the pages of the *Münchener Medicinische Wochenschrift* a peculiar phenomenon in patients suffering from scarlet fever, which they suggested might supply a test for the diagnosis of this disease; yet so far as articles in our medical journals are an index little notice seems to have been taken of their work in this country. At last, in the current number of the *Edinburgh Medical Journal*, there is published a paper dealing with this phenomenon, written by

Dr. [illegible] etting forth his experienc [illegible] easure. Briefly stated, the [illegible] the appearance of subcutaneous petechial hæmorrhages on the forearm of patients suffering from scarlet fever, when a bandage is applied just above the elbow sufficiently tightly to constrict the veins while allowing the arterial circulation to continue somewhat feebly, the pulse at the wrist being just perceptible. The hæmorrhages appear during the reaction when the bandage is removed, some degree of "capillary vulnerability" being apparently produced by the toxins of the disease. Dr. Richardson finds that the reaction is invariably obtainable in scarlet fever patients up to the end of the fourth week, and if complications are present up to the end of the fifth, though difficulties may be met with in producing it in infants with soft, fat arms. No hæmorrhages are producible by this procedure in cases of acute specific fevers in which there is no eruption, such as diphtheria and whooping-cough, but in patients in whom the rashes of measles or rubella are visible, or even in cases of drug eruptions and serum rashes, a somewhat similar phenomenon may occur. It fails, however, as soon as the rash in question has disappeared. It seems, then, that the test is of considerable value as a means of recognising scarlet fever at stages of the disease in which the rash has faded, but that it does not serve to differentiate between the rash of this disease and an erythema occurring in other conditions until the actual cutaneous disturbance has subsided. The procedure is so simple that it certainly seems worth while, for those who have the opportunity, to make further investigations as to its accuracy as a diagnostic measure, as cases are not rare in which recognition of an attack of scarlet fever in the post-eruptive stage is both important and difficult.

FOOD ADULTERATION AND CHRISTMAS FARE.

SPECULATIONS have appeared in certain lay papers as to the probability of the stock fare of the season showing on examination systematic adulteration. Exaggerated statements in regard to this matter have been made. It would be absurd, of course, to give an absolute undertaking that all the food partaken of this Christmas will satisfactorily pass the portals of analysis, but it would be fairly safe to anticipate that an examination would disclose the practical absence of objectionable ingredients. That is to say, if there were found any adulteration at all it would not be of a very serious kind, or exist to a serious extent. After all, it is to be remembered that the present Sale of Food and Drugs Act, though it has certain defects, works very well in the direction of protecting the consumer, and the figures of the past 10 years show a gradual fall in the percentage of adulterated samples. Whatever may be said in regard to the desirability of introducing reforms in this department of State health administration, the fact remains that our food supplies at the present moment are very carefully watched, and it is doubtful, speaking generally, whether a higher standard of purity has ever been reached or maintained before. Modern offences are mostly petty in kind, amounting here and there to the presence of a small quantity of preservative which in a good many instances proves to be unobjectionable, or, again, to a deficiency of cream in milk, or to a foreign but innocuous colouring matter in sugar. The fraud committed through trading in food commodities is not so rife as it used to be, while the use of poisonous materials has practically been stamped out. So long, therefore, as the officials responsible for the working of our Food Acts do not relax their admirable energies we may reasonably hope that the present good general standard of purity in regard to food-supplies will not be lowered, because of the extensive buying of the Christmas season. It should be added that to submit the staple fare of Christmas to chemical analysis might be waste of time. It is not always that analysis can be trusted to give an explanation of disagreeable symptoms when they happen to arise. Modern instances of food poisoning rarely furnish a clue to the chemist or analyst. The contamination is nearly always biological and therefore a matter for the bacteriologist and pathologist to clear up. The safeguard is to keep food-supplies in clean surroundings.

THE MESOTHORIUM TREATMENT OF CANCER.

AT the German Congress of Gynæcology Professor Krönig, of Freiburg, and Professor Gauss reported that they had devised a new method of giving large doses of mesothorium; it consisted in the use of a special filter for the rays, so that the alpha and beta rays which have a severe burning effect were completely absorbed by the filter and the gamma rays alone remained. The filter employed consisted of a layer of lead two millimetres thick, a layer of gold three-quarters of a millimetre thick, and a layer of platinum half a millimetre thick. Previously they had treated 26 patients with unfiltered mesothorium rays, and in every case recurrence had occurred, ending in death. They had also treated 64 cases with mesothorium rays and with X rays in order to avoid recurrence after removal of the growth by operation. These 64 cases were divided into two groups. In the first group of 43 cases the X rays were for the most part unfiltered, and of these cases 23 have since died with recurrence of the growth. In the remaining 21 cases in which all the rays were filtered no recurrences had occurred at the time of the communication. They had also treated 48 cases of inoperable cancer by the new method, and of these 18 were still under treatment. Of the remaining cases 17 might be claimed as completely cured, for in several of them local excision and histological examination had shown that the disease has been completely removed and that no recurrence had taken place. In 5 cases death occurred during the treatment. In 8 cases the treatment was discontinued at the request of the patients. The longest interval of freedom from relapse had been a year and two months. The cases included examples of cancer of the uterus, the breast, the œsophagus, the face, and the stomach. They had come to the conclusion that large doses of mesothorium and X rays, if injury to the skin is avoided by filtration of the rays, have a curative action on the cancer cells even in the deeper layers, though there is no effect on metastases. Professor Döderlein, of Munich, confirmed the statements of the authors of the paper; he said that he had ascertained by means of excisions the gradual destruction of the cancer cells in the various stages of the treatment until they disappeared completely. The malignant tissue was replaced by a mass of firm fibrous tissue, the discharge and hæmorrhage disappeared, and the general state of the patient improved.

VITAL STATISTICS FOR 1910 OF THE UNITED STATES OF AMERICA.

WE have received from the Census Bureau at Washington a report on the mortality of the Registration Area of the United States for the year 1910. This report, which is the eleventh of the series, appears as a folio volume of more than 600 pages, and is the work of Dr. Cressy Wilbur, chief statistician of the Census Bureau. The population whose mortality statistics are now published amounts to 58·3 per cent. of the entire American Republic. The territory thus inhabited, and designated the Registration Area, occupies fully one-third part of the vast domain of the United States. In a preface Dr. Wilbur intimates that, although the mortality records now presented are directly comparable with the population statistics as enumerated at the thirteenth Census, full details respecting the latter are not yet available. Consequently, the general or crude death-rates alone can now be given. Nevertheless, complete details of mortality, derived from comparison of deaths with population, by means of corrected death-rates and life tables, together with an analysis of occupational mortality, are promised in a forthcoming volume, the preparation of which has already been commenced. Accordingly, the present volume must be regarded as a continuation of the series of annual reports already published, which deal generally with the mortality of various parts of the country. By means of tables in the text, which are comparable with those published by the English Registrar-General, the general tendency of mortality from all causes and from specified causes may be studied and comparison readily made with changes in foreign countries. From one of these tables, relating to 1910, it appears that the crude death-rate of the entire Registration Area was 15·0 per 1000 living, against 13·5 per 1000 in England and Wales. It was somewhat higher than the rates of 1908 and 1909, but with these exceptions was lower than in any previous year respecting which statistics are extant. The present report, which has apparently been compiled with great care, marks a distinct advance in American vital statistics, and under the able direction of Dr. Wilbur still further improvement in this important direction may confidently be looked for in the future.

THE proposed amalgamation of St. George's Hospital and Westminster Hospital is now in jeopardy owing to a difference of opinion which has arisen on the question of a common site, and a meeting of governors of St. George's Hospital will consider a proposal made by their house committee for sanction of the purchase of a site at Wandsworth.

Sir Alfred Pearce Gould has sent to Prince Alexander of Teck, as chairman of the Middlesex Hospital, £1000 which he received from "a friend," for the purchase of radium to be used in the treatment of the patients in the cancer wards of the hospital.

THE London Post-Graduate Association, we are informed by the secretary, is to be wound up at the end of the year.

THE INDIAN MEDICAL SERVICE.

THE Public Services Commission took up the inquiry i the Medical Services on Nov. 21st.

Surgeon-General Sir C. Pardey Lukis, Director-General the Indian Medical Service, who was first examined, expres no views regarding probation and training, as the pres system, he thought, was quite good. Out of the sanctio strength of 748 officers in the Indian Medical Service, o 722 posts had been filled up, of which 54 were Indians. of these 54, only 28 applied for civil employ. Before l they would have the station hospital system for Indian tro on the same lines as for British troops. In his opinion it a man no harm in being put to regimental duties for six yea He thought all Indian Medical Service officers should be pla on the general list as regards selection for the grades lieutenant-colonel, adding that there was no doubt that best men were not coming into the service. "The rea for this," said Sir Pardey Lukis, "is that an impression got abroad that the Indian Medical Service is going to broken up. I am not saying it as my own impression, but i an impression at home." He gave figures to show that number of Indians in the service of late years had increa considerably. Out of 72 new appointments 15 were India He hoped the training of candidates would be augmented a course of study at the new Tropical Diseases Sch in Calcutta. In his opinion the training was satisfacto He had been much astonished at the figures which sho the number of applications from candidates to enter civil service. The figures were 52 per cent Indians and per cent. of Europeans. He would have thought that th would have been the other way round. In the cases of m who were to enter the civil service, witness did not thi that service with the regiment should be too long. appointments for ordinary civil work were made by seniori without regard to the question of military rank, and, in opinion, any system of selection would be injurious. T witness said that at present 331 out of 475 of civil surge were under orders for reversion to military duties in event of a general mobilisation. The number of men w sought service in the Indian Medical Service had decreas Young men were, in fact, so fully occupied now in Engla that a practitioner would have to pay 8 guineas a week fo locum tenens instead of the 2 guineas which was paid a f years ago. "We should be depending on a broken ree said the witness, "if we relied upon England and colonies in the event of mobilisation. Here, so far as we c ascertain, there are 1771 independent practitioners hold qualifications, Europeans and Indians. The Europeans under contract with big firms and their services would not available even if they were willing to come. Many of Indian practitioners have large practices in big cities, and cannot think they would give these up. Many of remaining men belong to the non-martial races, so would be the kind of men we should desire. Some time ago tried to find out the number of practitioners who wo volunteer. We found 24, all Europeans, and these fact added the witness, "justify me in holding the opinion t the question of the war establishment is one of considera importance."

The standard of training in the Indian medical insti tions at Calcutta, Madras, Bombay, Lahore, and Luckno Sir Pardey Lukis thought, was good, and in some cases bet than that given at home. The only defects were the n insistence on practical training for students before granti them diplomas, the understaffing of colleges, and the wa of development in special branches of study, such as thr and ear diseases. All examining bodies at home insisted th students should have attended confinement cases before th qualified themselves, which owing to existing conditions India was not possible: for the M.B. examination in Punjab University, a registrable qualification, stude were not required to have practical training regard women's diseases. The M.B. of the Punjab University co go direct to the Indian Medical Service, and though he co get into the service he was not qualified. Therefore witn laid stress on the importance of insisting that students sho undergo practical instruction in women's and childre diseases. He suggested that the marks should be raised fr 600 to 700 in women's and children's diseases as in medic and surgery.

Sir Pardey Lukis next said that civil assistant surgeons had a better training than military, and that the former's were registrable qualifications He suggested that students in the military assistant surgeon's grade should have the same training as those in civil employ He submitted in January 1911, to the Government of India a letter suggesting this improvement, and a dispatch had been sent home The only advantage the military assistants had was that after passing the examination they went with British troops and obtained an excellent training, not only with soldiers, but with women and children, and in the treatment of women and children they were better than [illegible] Military assistant surgeons had [illegible] and bacteriology, but he would like [illegible] beginning receiving the same training as civil assistant surgeons The defect in their training had an effect on their popularity The witness said, in reply to Lord Islington, that there was no medical college entirely devoted to women in India, and this had generally an effect in keeping away the better class of Indian women from taking to medicine When Lady Hardinge's Medical College for Indian Women at Delhi was opened he hoped a better class of women would join it The scheme was complete and the names of the selected students would be announced as soon as Her Excellency returned to Delhi There were 355 medical missionaries in India and they were serious rivals not only to the civil surgeons but to independent practitioners also as missionaries treated practically for nothing in return To stop medical practitioners who had no qualification from practice a Bill was passed by the Bombay Legislative Council in March, 1912 A similar Bill introduced in the Madras Council by the Hon Dr T M Nair was under consideration, and one would be brought before the Bengal Council during the ensuing winter An Imperial Act was also under consideration But those Acts were not intended to interfere with the practice of the Eastern system of medicine

There were only two places in India—Calcutta and Bombay—where independent medical colleges could be established He gave an account of the private medical institutions in Calcutta The hospital at Belgachia in connexion with the Albert Victor Hospital was an excellent institution with a good surgical and medical staff, but was badly handicapped for want of funds, and consequently for the necessary building and equipment He had heard unofficially that the Bengal Government had decided to give 5 lakhs non recurring and 50 000 a year recurring for the upkeep of this institution on condition that the college was affiliated to Calcutta University and the necessary building and equipment for a hospital were provided This, Surgeon General Lukis thought, would form a great outlet for independent medical practitioners

Replying to questions concerning the unpopularity of the Indian Medical Service with young men at home, Sir Pardey Lukis said Personally, I believe that the Indian Medical Service is now as safe as it ever was and that it presents as many opportunities for good careers as ever I have been preaching that gospel for some little time, and I was horrified to find how little impression I could make

Mr Ramsay Macdonald Is the unpopularity of the service due to the assumption that the enrolment is not good or that the service itself is going to suffer at some future time?

Sir Pardey Lukis The whole of this trouble has arisen since Lord Morley's circular The unpopularity of the service was due to the fear that one third of the civil surgeoncies would be given over to independent medical men, and to military surgeons being absorbed by the Royal Army Medical Corps

Replying to Mr Madge, Sir Pardey Lukis doubted whether the Director General should be joint secretary in the Home Department

In reply to Mr Abdul Rahim Sir Pardey Lukis said that the cause of the unpopularity of the service was the insufficiency of the salary given to members and the employment of [illegible] filled by the assistant surgeons The number of men liable for military service would cause a big dislocation, but they would not all be recalled at once, but in six different sections If the whole of the Indian army was mobilised a large number of civil institutions would have to shut up

Replying to further questions, Sir Pardey Lukis said that in England a young practitioner after graduating went to quiet places and then went into big towns, but a young Indian would not do that He was not aware of an impression among Indian members of the Indian Medical Service that only inferior posts were given to them, such an impression was not justified 75 per cent of the European members of the service possessed the higher qualifications, and 153 officers of the service had specialised themselves He did not approve of the appointment of independent medical practitioners as professors in Government colleges, but suggested the establishment of private institutions where the abilities of such men could be utilised As to the desirability of appointing Indian assistants to posts when vacancies occurred in the department in which they had served for a number of years, Sir Pardey Lukis said that Indian assistants had done well In Calcutta Rai Bahadur Chunilal Bose had officiated at various times Sir Pardey Lukis added that the defects pointed out in the Punjab University examination in his opinion existed in other places too

In reply to Mr Sly, he said he would have no objection to Indians being given a scholarship to proceed to England for medical tuition after they had obtained their diploma He would accept a scheme of study leave, applicable to military assistant surgeons, civil surgeons, and Indian Medical Service officers

Mr Fisher Considering the formidable list of duties which a civil surgeon has to do, would you be in favour of specialisation?

Witness I am quite in favour of the amalgamation of the sanitary with the bacteriological department, provided the Director General of the Indian Medical Service was head of their department with the Sanitary Commissioner as his staff officer

Answering Sir Valentine Chirol, witness said that in view of the fact that personal claims must be subordinated to the Indian Medical Service which was essentially a military body, it was not hard to understand that no Indians volunteered for war service Also it must be remembered that of the total number of independent practitioners nearly 1000 Indians belonged to non martial races In order to bring India up to the numerical standard of practitioners in Great Britain there would be required a total of 250,000 practitioners

To Sir Murray Hammick, Sir Pardey Lukis said that there was no difference in the scale of pensions given to military men and civil employes of the service, and there should be the same *cadre* in the provinces all over, so that efficient men could be imported from outside when necessary without difficulty

The second witness Major R F Baird, I M S, civil surgeon of Benares who represented the United Provinces said that the main causes of uncertainty regarding the service was the possibility of a rush of private practitioners and a suggestion that a good number of civil work would be handed over to them He considered that the medical training obtained at home was superior to that given in India and recalled the fact that the Indian University qualified men had to undergo training in England before they could get into the service In India the training was defective, especially in midwifery and children's diseases He advocated, among other things, the giving of house surgeoncies in big hospitals to private practitioners, and said that if a civil surgeon had an extended private practice it increased his efficiency, while during the military period of an Indian Medical Service officer's career he gained no teaching experience He advanced no objection to professorships being given in the colleges to independent practitioners It was urged that civil surgeoncies should be held by Europeans, because they had practice among European families He admitted that that argument could cut both ways; but in the cases of Indian ladies it did not apply so strongly as they would not see any man at all

Mr Gokhale having interposed the remark that the *purdah* system was not so strong in other parts of the country as in the United Provinces,

Captain J. T Parkinson, I S M D, said that he represented 53 surgeons of the United Provinces of the Indian Subordinate Medical Department He said that it seemed anomalous to him that his department was called subordinate.

Mr. U. N. Bannerjee, representing the assistant surgeons of the United Provinces, said that his colleagues complained of the scale of pay and the exclusion from higher appointments.

Dr. Bhawat Ram Sawhney (representing the Punjab Medical Union) was the first witness taken on the second day of sitting. He agreed that no Indian should enter the Indian Medical Service without holding British qualifications. He urged the recruitment in England of a staff of professors for medical colleges in India. He was not in favour of Indian Medical Service officers taking professorial work, believing that deterioration in efficiency of medical practice was due to entrusting work to Indian Medical Service officers who had no experience of that work. In teaching hard work was required and great interest should be evinced. Indian Medical Service officers with the necessary training, qualifications, and ability made good professors, but he was of opinion that they lost freshness and did not obtain after coming out to India the experience essential for teaching. He urged the reduction of the present medical organisation by half and the substitution of private practitioners. He thought that private practitioners could be encouraged without the adoption of any change so sweeping as to have serious effect on the Indian Medical Service. He remarked that London hospitals were closing their doors against the Indian student, but better understanding would change that attitude. It was advisable for Indians to study in India, but he would have all full surgeons trained in England. He added that his experience of training colleges in India was gained 35 years ago, and improvements must have been made since then. He knew, for example, that the professors now went on study leave.

Lieutenant-Colonel H. Smith, civil surgeon, Amritsar, thought that Lord Morley's circular had still influence in the service. There was a feeling of uncertainty about the future. He would make all Indian candidates go to England. If they did so it would be to their advantage. They would be placed on a similar footing to that of Europeans. He thought the standard of Indian colleges was "up to the times," and there was not the social life and rough and-tumble of an English college. He would restrict the number of Indians who desired to enter the service to 20 per cent. "The medical practice in the Punjab," continued witness, "is as overstocked as is the Punjab Bar." Most Indians, witness continued, had agreed to leave nominations to the Indian Medical Service with the Government, and that the number of Indians in the service should be restricted to a maximum of 20 per cent. He said that the scope for corruption and bribery open to a civil surgeon engaged in legal work was enormous, and that, as English practitioners understood it, there was no such thing as professional etiquette in certain classes of practitioners in India.

Lieutenant J. F. Fleming, Deputy Superintendent of Lunatic Asylums in Lahore, stated that though the subordinate department were entitled to a month's privilege leave in the year, they were not given that, and they had no holiday in the year, not even on Sundays or public holidays. He objected to the placing of their department on an equality with civil assistant surgeons. Without making any suggestion as to the limitation of Indians in the Indian Medical Department, he was of opinion that Europeans wielded greater influence and commanded more respect from the people.

Mr. Mirza Yaqub Beg, civil assistant surgeon, Punjab, suggested the creation of more posts for civil surgeons, so that officers w [illegible] of civil assistant surgec [illegible] chance of holding higher [illegible] n view of the hard work [illegible] urgeoncies should be given [illegible] partment. Civil assistant surgeons in his province claimed exemption from the provisions of the Arms Act. That was a privilege they should be entitled to in view of the number of dacoities and other outrages that were committed in parts of the Punjab. The conditions of salary and pension were matters of complaint. Their pay was not adequate considering their arduous duties. Witness advocated retirement on pension after 20 years' service on the ground that the service was hard-worked.

Assistant Surgeon [illegible] r the I.S.M.D. Rai way Sections, was th [illegible] third day of sittin He stated that assi [illegible] ailways demande *inter alia*, the same [illegible] anted to the India Medical Service. They performed the same duties as ci surgeons, and it was only in exceptional cases that the ai of civil surgeons was requisitioned, and then only for consultation. He knew many cases where military assista surgeons were serving under civil assistant surgeons, and h saw no objection to it. As regards the comparative trainin of civil assistant and military assistant surgeons, the sup riority of the former existed in theory only. In practice th military had more outdoor work to do and they gathere more practical experience.

Major R. M Dalziel, I.M.S., superintendent, Central Jail Punjab, said that the jail service was not popular, and diff culty was experienced in getting officers to enter the branch Indian medical officers had conducted the jails so well i previous years that he could not see the need for any chang He was not in favour of transferring superintendents fro one province to another on promotion; but he advocate promotion in the same province to the Inspector-Generalshi He was of opinion that by inter-provincial transfers ther was a likelihood of interference with seniority claims o other officers, so that in one province an inspector-genera might be senior to the next man by a few months. Th central jails in big cities gave a good scope for the trainin of superintendents. He did not agree that assistant su geons should take charge of jails. He did not think ther would be any advantage in appointing a separate medica officer in addition to the superintendent who could give a opinion on the prisoners' health. He also did not agre that the governorship and surgeoncy of a jail should be hel by different men.

Lieutenant-Colonel Browning-Smith, I.M.S, Sanitar Commissioner, Punjab, said that for the sanitary department of the Indian Medical Service officers draw from the military were better than those in civi employ. A medical officer of a regiment had heav work to do [illegible] troops. He though many Indians [illegible] sanitary work in vie of their knowledge of public health and their acquaintanc with the language and customs of the people; on plagu duty they had been of very great use to him. He had tw deputy sanitary commissioners, one of whom was a Indian. He suggested that promotion in the sanitar department should be from one list for all India. Th language problem certainly presented a difficulty, but he di not think it was insurmountable. In the sanitary department a European officer would have more authority wit the people than would an Indian private practitioner. Th Punjab Municipal Act gave large powers to sanitary officers but it was a dead letter, and to that, and because they wer not yet educated up to it, was due the apathy of local bodies He quite saw the [illegible] doctors in sanitar work, but he did no [illegible] at that stage yet [illegible] In the Punjab there was no office [illegible] English inspector of nuisances: b [illegible] that end. Spec [illegible] work, but they [illegible] the Sanitary Com missioner as the [illegible] nitation head. S far as administr [illegible] the Sanitary Com missioner should be under the [illegible] General of Civi Hospitals; but on technical matt [illegible] ita tion he objected to that and su [illegible] ar Commissioner should be indeper [illegible] o public interest in sanitation was proceeding apace in India and it had progressed so far as to justify a considerabl increase in the staff.

Major J. C. Robertson, Sanitary Commissioner with th Government of India, advocated an all-India sanitary an bacteriological department. There was difficulty in attracting officers to the department, and at the present time ther was an insufficiency of men available for the service. Durin the past year men outside the medical service had bee recruited into the department, but it was too early yet t state any result of the experiment. It was essential tha Indians should be recruited to the department, one of th objects in this being to arouse the interest of the people. A present he would, however, prefer European superior officer because of their wider knowledge. He would be dispose to give superior posts to the best of the Indians from th Indian medical colleges provided they went home for two o three years and applied themselves to the study of sanitation, and thought there existed a good opening for the employment of women doctors. He laid stress on making the department more attractive.

Dr. A. Lankester, honorary secretary to the Medical Missionary Association of India, stated that he had 22 years' experience in medical work in this country and was of opinion that there should be a considerable increase in the staff of the medical service in India, and private agencies should be called in more and more to help the Government. He thought that the civil surgeons were overworked and that there was great scope for an increase in the *personnel* of the service. He thought there would be a great advantage in Government hospitals taking private practitioners as honorary surgeons. The initial benefit would be with the practitioner, but ultimately the gain would be a double one. He thought it most important that a Medical Act should be introduced into India. He advocated making the civil side of the Indian Medical Service the premier branch and recruiting from there into the military side. The normal condition was one of peace. To ease the present burden of ou [illegible] place the non-medical charge of jails in the [illegible] He advocated the abolition of [illegible] surgeons, but would compensate them for their loss. He suggested that hospitals in districts should be placed under the charge of outside practitioners, and that in cities a certain number of beds should be placed under their charge.

THE HEALTH OF THE NAVY IN 1912.

THE statistical report on the health of the Navy for the year 1912 is the first to appear [illegible] Surgeon-General Arthur W. May, who [illegible] latter part of the present y[illegible] show an improvement for the Navy as a whole, which is extremely satisfactory. The total force for the year 1912 amounted to 119,540, of which number 92,120 were serving in the Home Fleet or on the home station, the remaining 27,420 being distributed among the seven fleets and squadrons serving abroad. For the Navy as a whole the number of cases of sickness has been 642 5 per 1000 of strength, compared with 666·6 for the preceding five years' average, 1907–1911; the daily sick have been 25 16, compared with 27·67; the deaths 3·30, compared with 3·24; and the final invalidings 16·92, compared with 16·44 per 1000. The last two items are very slightly in excess of the ratios for the year preceding, as well as of the quinquennial average. The highest admission ratio, 948 per 1000, occurred on the East Indies Station, but this was below the quinquennial average of 988, though considerably higher than the ratio for 1911—viz., 876. The deaths on this station (5·55 per 1000) were, on the other hand, very much below the average ratio of 9·43. The highest ratio of daily sick, 35·8, was met with, as usual, among the men on the Irregular List, including crews on passage to and from foreign stations, and those of the vessels on the west coast of America and on detached service. Next comes the Home Station, with an average of 33·75, and the East Indies Station with 33·51; while the healthiest command was that of the Home Fleet, with a daily sick ratio of 21·04 per 1000. The difference between the health of the Home Fleet and that of the Home Station was more marked than usual. The latter force consists of men at the depôts and on training ships, at the hospitals, and at the Royal Naval College at Greenwich.

The chief cause of admission to hospital was disease of the digestive system, with 111 admissions per 1000. Next after this came venereal disease, for which the ratio was 106 per 1000, a c[illegible] the average for the preceding [illegible] hich was 119·8; the average n[illegible] 000, [illegible] reduction on the quinquennial ratio of 7·84. The [illegible] such as pneumonia (3·74 [illegible]), and tuberculosis (2·32), were below the quinquennial averages; but for rheumatic fever there were 906 admissions, constituting a ratio of 7 57 per 1000, which is an increase on the preceding average of 6·95. The disease returned under this heading must, however, have been of a very mild type, as only one death occurred among the 906 cases. Mediterranean (formerly called Malta) fever has practically disappeared from the naval returns, there having been only four cases and no death. The most fatal disease was pneumonia, causing 36 deaths (0·30 per 1000); after which come enteric fever with 29 deaths (0·24) and tuberculosis with 22 deaths, and organic heart disease with the same number (0·18 per 1000). The chief causes of invaliding were heart disease (2·70), nervous diseases (2·45), and tuberculosis (1 83 per 1000); the last-named only is a reduction on the quinquennial average (2·06).

On comparing the figures for the different naval commands it is seen that the East Indies Station suffered most, having an admission ratio of 948 per 1000, with 45 invalidings and 5·55 deaths. Malaria caused 37 5 and pyrexia 12 admissions per 1000, the other chief causes of sickness being digestive and venereal diseases and affections of the skin and connective tissue. The healthiest commands were the Mediterranean with 503 and the Home Fleet with 556 admissions per 1000.

Prevalence of Chief Diseases.

The diseases of most frequent occurrence in the Navy may now be considered in regard to their prevalence and distribution. Before alluding to these it may be mentioned that only 3 cases of small-pox occurred throughout the whole force, 1 case from each of three ships on the China Station; one of these was fatal. In two instances the patients had to be retained on board ship for periods of six and seven days respectively. No extension of the disease occurred, in spite of the inevitable closeness of contact with the rest of the crew, a fact which speaks highly for the protection afforded by vaccination.

Influenza (1413 cases) caused less sickness than has been usual of late years; the admission ratio was 11·82, compared with 21·24 per 1000 for the preceding quinquennium. The disease itself was mostly of a mild type, and there were no deaths; it occurred in all the commands except the Cape, most of the cases being on the Home Station and in the Home Fleet. Scarlet fever prevailed in epidemic form on the Home Station, where there were 334 cases and 4 deaths; 199 cases were admitted from the boys' training ship *Impregnable*, the epidemic continuing throughout the year, but being of a mild type. Diphtheria was again, as in 1911, prevalent on the Home Station, 167 out of the total 194 cases being admitted from this command, and of these 107 occurred at the Shotley training establishment; none were of a severe character. Fleet-Surgeon R. H. Browne remarks that some of the carrier cases dealt with were extremely intractable to treatment, and an appreciable number developed diphtheria later. He did not find prophylactic inoculation to be "of any material value." Seven cases were returned by the *Donegal*, of the North American squadron, 6 being boys; these were attributed to infection from Shotley, carried in the clothing or bedding.

Enteric fever caused 140 admissions and 29 deaths. On the Home Station 18 cases occurred on board the *Vivid*, most of them probably contracted at Plymouth; in 4 instances, also in 5 cases on the *Impregnable*, the eating of shellfish was thought to be the cause. To a similar origin were attributed several cases in the Home Fleet. At Ascension Island 15 cases followed on the flooding of water catchment areas by heavy tropical rains, owing to which the drinking-water became polluted. On board the *Formidable*, of the Home Fleet, 10 cases occurred, without obvious connexion, but apparently originating within the ship. Fleet-Surgeon H. C. Arathoon made an exhaustive investigation, and inclined to the belief that the disease originated on board. No definite vehicle of infection could be discovered, but the yeast used in baking was found to contain bacilli of the coli group It is probable that in many instances the temperature reached in the interior of a large loaf may not be high enough to destroy the bacilli. Of Mediterranean fever 4 cases only occurred throughout the whole Navy. One in the Home Fleet is [illegible] home; another, a sailor who developed the disease [illegible] hospital in Malta suffering from pneumonia; for the third, who had not been ashore for more than a month, no explanation could be found. A greater number of deaths occurred from pneumonia than from any other disease—viz., 36, giving a ratio of 0·30 per 1000, slightly below the quinquennial average of 0 32. Of the 448 cases, 197 were admitted on the Home Station (chiefly from the depôt and training ships) and 185 in the Home Fleet, but there was no epidemic prevalence. Malaria showed a decided reduction, compared with former years. There were only 306 cases in all, giving an admission ratio of 2·55 per 1000, little more than half that of the quinquennium (4·91); 81 cases were contracted at Bombay or in the Persian Gulf, but the ratio per 1000 (37·5) was much below that for the previous five years (132·45). Tuberculosis shows a slight improvement, the ratios for admission and death being 2·32 and 0·18 compared with 2 68 and 0·27 during the quinquennium; the sick berth staff, with 6·65, and the ships' stewards, with 4·66 admissions per 1000, suffered much more than the other ratings, for seamen the admissions being only 2·37; the least incidence was experienced by the ships' cooks (1·47). The East Indies Station, with an admission ratio of 5·09, suffered much more than any other. Venereal diseases, as already stated, have shown a substantial decrease, and do not now head the list with a larger number of admissions than any other disease. The improvement has been most noticeable in the admissions for primary and secondary syphilis. The total days' sickness from these two diseases has been less by 14,000 than in 1911, due to the use of salvarsan; the invaliding ratio for syphilis has also decreased from 0·89 to 0 69 per 1000. There were 107 cases of poisoning throughout the whole force; 42 of these were due to ptomaines, but no outbreak of any importance is recorded; 22 were due to carbon monoxide, mostly owing to working in coal bunkers. Death from drowning occurred in 79 instances, of which 29 were due to the loss of submarines A 3 and B 2.

The appendix contains an account of some interesting cases of Gunshot Injury in China, by Surgeon D. H C. Given; Some Observations on X Rays in the Diagnosis of Tubercle of the Lung, by Surgeon R. Connell; Statistical Results of the Use of Salvarsan, by Fleet-Surgeon L. Kilroy; and an account of the Seven-day Fever of Indian Ports, by Surgeon D. A. Mitchell.

Public Health.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Outbreak of Enteric Fever in the Borough of Colne (Lancashire), by Dr. J. R. HUTCHINSON.[1]—This report relates to an outbreak of enteric fever due to milk infection which occurred in Colne, a Lancashire town with a population of 26,000, between Dec. 21st, 1912, and Feb. 1st, 1913. Altogether 74 cases were notified, and 54 houses were affected. Deducting the first case of all and three secondary cases—i.e., those occurring in invaded houses in which illness did not begin for more than a fortnight after the first case, there remained 70 cases which had the implicated milk-supply in common. The age distribution of these cases was as follows:—

1 to 10 years	20	31—40 years	4
11 " 20 "	16	Over 40 "	8
21 " 30 "	22		70

Thirty-four were males and 36 females. The daily rounds of the milk dealer in question and the sources from which his milk was obtained were investigated in detail by Dr. Hutchinson and by Dr. W. Doyle, the medical officer of health of Colne, and the source of infection was traced to a particular dairy farm at which a schoolgirl in the farmer's household had been nursed at home on account of illness the true nature of which was not recognised from Dec. 5th, when she first sickened, until the end of the month, when she was regarded as more or less convalescent. She was, however, found still to be ill on Jan. 14th, when she was removed to hospital. Dr. Hutchinson notes as to the opportunities of infection of the milk during this period, that the milk used by the farmer's family was extracted by a jug from the large "kit" in which milk was sent away to the town, and that the same dish cloth was used for this jug, for other domestic crockery, and for the milking cans. The girl's mother, who conducted these cleansing operations, slept with her sick daughter and attended to all her wants during illness. The report has a useful diagram of cases and map showing in a striking manner the way in which the invaded houses followed the line of the particular milk distribution. The text of the report forms an interesting narrative, setting out the facts and conclusions in logical order, and leaving no doubt of the thoroughness with which the investigations were conducted at every stage. Dr. Doyle's prompt action in stopping the milk-supply as soon as suspicion was directed to the farm concerned should receive grateful recognition from the inhabitants of the district.

On Conditions of Housing and other Sanitary Circumstances in St. Dogmell's Rural District, by Dr. MORGAN J. REES.[2]—The problem of the derelict country district is just now very prominently before the public in connexion with a host of remedies and panaceas, in nearly all of which the provision of better cottages for the agricultural labourer is aimed at. The social, economical, and industrial features of this question are admittedly complex, and their right solution must depend upon the proper appreciation of the facts as they now are in representative districts. From this point of view Dr. Rees's report on the part of Pembrokeshire contained in the rural district of St. Dogmells is distinctly valuable. It is a large district 15½ miles by 10½, badly served by railways with a total population in 1911 of 7888—a decrease of 36 on the previous Census. Most of the people live in scattered villages and hamlets, the country has been turned down to grazing for cattle and sheep, and the farm labourer gets low wages, 7*s.* 6*d.* to 12*s.* 6*d.* a week, plus his own food at the farm and a furrow of potatoes. Usually he has to pay his own house rent; as many as 1475 out of the 2297 occupied houses in the district are rented at under £5 per annum. The ordinary cottage is built of flat slaty stone on the bare earth, without foundations or damp-proof courses, the stones of the thick walls being bound together by friable material and showing holes and crevices. They are roofed with similar stone, sometimes without guttering or eaves spouting; the yards about them are usually unpaved, and it is common for them to be built back-to earth against the hillside. Some contain a single large room only; others contain lofts, used as sleeping-rooms, which are very low and lighted and ventilated (if such terms can be used) only by a small skylight. Dr. Rees gives a detailed description of 12 cottages as typical of a large number, with particulars of the number of occupants, wages, house-room, and cubic space. The description is certainly forbidding, and little exercise of imagination is necessary to realise the unwholesome nature of the accommodation available. In addition, it appears that many of the duties of an active sanitary authority, such as looking after the purity of the water-supplies or the scavenging of the villages, are neglected. The occasion of the inspection is noteworthy; it resulted from the district council inviting the central authorities to take a wide view of the position and ameliorate housing conditions from Imperial funds. Till such aid was given the council practically declined to put in force the provisions of the Housing and Town Planning Act of 1909, either in respect of the systematic inspection of houses required by the regulations made by the Local Government Board under that Act, or in regard to the provision of new dwellings. As might be expected, the Local Government Board was unable to accept the plea, and certainly Dr. Rees's report demonstrates that there is urgent necessity for systematic inspection of houses and the application of the Housing Acts. The district council would command greater sympathy and have better ground for their claims to assistance from the taxpayer if they were to make a serious attempt, however limited, to carry out their statutory duties in sanitary matters. The publication of this report may, and we hope will, enable the local authorities to make a new start on better lines.

VITAL STATISTICS.

VITAL STATISTICS OF LONDON DURING NOVEMBER, 1913.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears

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[1] Reports on Public Health and Medical Subjects. New Series. No. 84. London: Wyman and Sons, Fetter-lane; Edinburgh: H.M. Stationery Office; Dublin: E. Ponsonby. Price 6*d.*

[2] Ibid. New Series. No. 82. Price 3*d.*

(Specially compiled for THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1913.	Notified Cases of Infectious Disease.												Deaths from Principal Infectious Diseases.									Deaths from all causes.	Death rate per 1000 living.†
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,518,191	—	2506	744	—	78	1	29	434	3	15	3310	11·0	—	13	13	40	30	7	217	320	0·9	4678	13·5
West Districts.																								
Paddington	142,210	—	78	36	—	1	—	1	15	—	—	131	12·0	—	1	1	3	3	—	9	17	1·6	144	13·1
Kensington	171,284	—	96	20	—	1	—	—	12	—	—	129	9·8	—	—	—	—	—	—	6	6	0·5	159	12·0
Hammersmith	123,745	—	84	6	—	—	—	—	18	—	—	108	11·4	—	—	—	1	—	—	4	5	0·5	111	11·6
Fulham	157,117	—	113	37	—	3	—	3	12	1	—	169	14·0	—	—	—	1	—	—	10	11	0·9	146	12·5
Chelsea	64,598	—	29	7	—	1	—	—	3	—	1	41	8·3	—	—	—	—	1	—	2	3	0·6	70	13·4
City of Westminster	154,810	—	68	19	—	2	—	—	6	—	—	95	8·0	—	—	1	2	—	—	9	12	1·0	149	13·2
North Districts.																								
St. Marylebone	114,532	—	62	8	—	3	—	—	12	2	—	87	9·9	—	—	—	1	—	—	4	5	0·6	117	13·6
Hampstead	86,346	—	25	13	—	—	—	—	3	—	—	41	6·2	—	—	—	—	1	—	2	3	0·5	73	11·6
St. Pancras	214,330	—	46	40	—	—	1	1	18	—	2	103	6·6	—	—	—	1	—	—	10	11	0·7	244	14·8
Islington	325,585	—	228	46	—	4	—	3	19	—	1	301	12·1	—	—	1	3	2	—	18	24	1·0	376	14·7
Stoke Newington	50,518	—	19	10	—	1	—	—	3	—	—	33	8·5	—	—	—	1	1	—	1	3	0·8	53	13·0
Hackney	223,353	—	132	30	—	6	—	2	20	—	1	191	11·1	—	—	—	1	2	1	8	12	0·7	214	12·6
Central Districts.																								
Holborn	46,949	—	21	11	—	1	—	—	3	—	—	36	10·0	—	—	—	2	—	—	3	5	1·4	40	11·1
Finsbury	84,679	—	47	8	—	3	—	1	11	—	—	70	10·8	—	—	1	—	1	—	9	11	1·7	128	19·5
City of London	17,916	—	5	3	—	—	—	—	—	—	1	9	6·5	—	—	—	—	—	—	1	1	0·8	20	15·2
East Districts.																								
Shoreditch	109,654	—	49	22	—	1	—	1	17	—	—	90	10·7	—	2	—	1	2	—	9	14	1·7	143	17·6
Bethnal Green	127,824	—	53	19	—	—	—	1	27	—	—	100	10·2	—	2	—	—	5	—	9	16	1·6	147	15·6
Stepney	275,300	—	79	42	—	9	—	2	29	—	1	162	7·7	—	—	1	1	2	1	17	22	1·0	327	16·2
Poplar	160,913	—	87	34	—	9	—	3	20	—	1	154	12·5	—	—	1	4	2	1	9	17	1·4	189	15·1
South Districts.																								
Southwark	188,437	—	133	26	—	8	—	1	28	—	—	196	13·6	—	2	2	2	1	—	15	22	1·5	234	16·3
Bermondsey	124,739	—	113	19	—	5	—	—	14	—	—	151	15·8	—	2	1	1	—	1	10	15	1·6	142	14·8
Lambeth	297,139	—	223	50	—	3	—	3	29	—	1	309	13·6	—	—	—	3	1	1	14	19	0·8	317	13·6
Battersea	167,464	—	115	19	—	3	—	—	19	—	1	157	12·2	—	1	1	2	—	—	6	10	0·8	159	12·5
Wandsworth	330,395	—	122	43	—	4	—	6	22	—	4	201	7·9	—	—	—	2	2	—	5	9	0·4	246	9·7
Camberwell	261,805	—	195	47	—	4	—	1	27	—	1	275	13·7	—	2	2	3	1	—	9	17	0·8	267	13·1
Deptford	109,280	—	70	31	—	1	—	—	28	—	—	130	15·5	—	—	1	2	—	—	7	10	1·2	115	13·5
Greenwich	96,015	—	39	23	—	—	—	—	8	—	—	70	9·5	—	1	—	—	—	1	3	5	0·7	110	14·7
Lewisham	163,822	—	83	35	—	4	—	—	5	—	—	127	9·8	—	—	—	2	2	1	6	11	0·8	120	9·1
Woolwich...	122,382	—	92	40	—	1	—	—	6	—	—	139	14·8	—	—	—	1	1	—	2	4	0·4	118	12·9
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 11·0 per 1000 of the population, estimated at 4,518,191 persons in the middle of the year; in the three preceding months the rates were 5·4, 7·7, and 10·4 per 1000 respectively. The lowest rates last month were recorded in Hampstead, St. Pancras, the City of London, Stepney, and Wandsworth; and the highest rates in Fulham, Southwark, Bermondsey, Lambeth, Camberwell, Deptford, and Woolwich. The prevalence of scarlet fever again showed an increase over the high numbers recorded in other recent months, and was greater than in any preceding month of the year; this disease was proportionally most prevalent in Hammersmith, Fulham, Islington, Southwark, Bermondsey, Lambeth, Battersea, Camberwell, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 1033, 1610, and 2562 at the end of the three preceding months, had declined to 2323 at the end of last month; the weekly admissions averaged 581, against 258, 402, and 512 in the three preceding months. Diphtheria was slightly less prevalent than in the previous month; the greatest proportional prevalence of this disease last month occurred in Paddington, Fulham, Holborn, Deptford, Greenwich, and Woolwich. The Metropolitan Asylums Hospitals contained 1188 diphtheria patients at the end of last month, against 909 and 1190 at the end of the two preceding months; the weekly admissions averaged 158, against 147 and 184 in the two preceding months. The prevalence of enteric fever showed a slight decline from that recorded in the preceding month; this disease was proportionally most prevalent in St. Marylebone, Hackney, Finsbury, Stepney, Poplar, Southwark, Bermondsey, and Lewisham. There were 72 enteric fever patients under treatment in the Metropolitan Asylums Hopitals at the end of last month, against 37, 56, and 77 at the end of the three preceding months; the weekly admissions averaged 11, against 6, 11, and 12 in the three preceding months. Erysipelas was proportionally most prevalent in Hammersmith, Finsbury, Shoreditch, Bethnal Green, Poplar, Southwark, and Deptford. The 29 cases of puerperal fever notified during the month included 6 in Wandsworth, 3 in Fulham, 3 in Islington, 3 in Poplar, 3 in Lambeth, 2 in Hackney, and 2 in Stepney. Of the 3 cases of cerebro-spinal meningitis, 2 belonged to St. Marylebone and 1 to Fulham; and of the 15 cases of poliomyelitis 4 belonged to Wandsworth and 2 to St. Pancras.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the several boroughs. During the four weeks ending Nov. 29th the deaths of 4678 London residents were registered, equal to an annual rate of 13·5 per 1000; in the three preceding months the rates had been 11·8, 13·3, and 13·7 per 1000 respectively. The death-rates last month ranged from 9·1 in Lewisham, 9·7 in Wandsworth, 11·1 in Holborn, 11·6 in Hammersmith and in Hampstead, and 12·0 in Kensington, to 15·1 in Poplar, 15·2 in the City of London, 15·6 in Bethnal Green, 16·2 in Stepney, 16·3 in Southwark, 17·6 in Shoreditch, and 19·5 in Finsbury. The 4678 deaths from all causes included 320 which were referred to the principal infectious diseases; of these, 13 resulted from measles, 13 from scarlet fever, 40 from diphtheria, 30 from whooping-cough, 7 from enteric fever, and 247 from diarrhœa and enteritis among children under two years of age. The lowest death-rates from these diseases were recorded in Kensington, Hammersmith, Hampstead, Wandsworth, and Woolwich; and the highest rates in Paddington, Holborn, Finsbury, Shoreditch, Bethnal Green, Poplar, Southwark, and Bermondsey. Only 13 fatal cases of measles were recorded last month, the corrected average number for the corresponding period of the five preceding years being 168; these 13 cases included 2 in Shoreditch, 2 in Bethnal Green, 2 in Southwark, 2 in Bermondsey, and 2 in Camberwell. The 13 deaths from scarlet fever were 11 below the corrected average number, and included 2 in Southwark and 2 in Camberwell. The 40 fatal cases of diphtheria were 14 fewer than the corrected average number, and included 4 in Poplar, and 3 each in Paddington, Islington, Lambeth, and Camberwell. The 30 deaths from whooping-cough showed a decline of 15 from the corrected average number, and included 5 in Bethnal Green and 3 in Paddington. The 7 fatal cases of enteric fever showed a decline of 11 from the corrected average number, and belonged respectively to Hackney, Stepney, Poplar, Bermondsey, Lambeth, Greenwich, and Lewisham. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Finsbury, Shoreditch, Southwark, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was equal to only one-third of the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council
April 1st, 1881, Fleet-Surgeon Hugh Winkworth Macnamar
has been placed on the Retired List at his own request.

The following appointments have been notified:—Staff
Surgeons: E. M. W. Hearn to the *Pembroke*, additional, fo
Chatham Hospital, and as Anæsthetist and Radiographe
J. McCutcheon to the *Hazard*; B. Pick to the *Gang*
additional, for Shotley Sick Quarters; and A. La T. Darle
to the *St. George*. Surgeon; C. R. M. Baker to the *Cornwal*

ROYAL ARMY MEDICAL CORPS.

Surgeon-General W. Babtie, V.C., C.B., C.M.G., Deput
Director-General Army Medical Service at the War Offic
has been selected for appointment as Director of Medic
Services to His Majesty's Forces in India, in succession
Surgeon-General A. T. Sloggett, C.M.G., honorary surgeon
His Majesty the King.

Colonel W. G. Macpherson, C.M.G., Assistant Director
Medical Services to the Fourth (Quetta) Division of th
Southern Army in India, has been selected for appointmen
as Deputy Director-General Army Medical Service at th
War Office. Colonel W. G. Bedford has been selected fo
appointment as Deputy Director of Medical Services in Sout
Africa, in succession to Surgeon-General O. E. P. Lloyd, V.C
C.B., retiring under the age limit.

Lieutenant-Colonel M. W. Russell, Deputy Assistan
Director of Medical Services to the Eastern Command, ha
been granted leave of absence for one month prior
embarking for Malta for a tour of service. Lieutenan
Colonel G. A. T. Bray, recruiting medical officer at Cante
bury, has been selected for [illegible]
to the Royal Hospital at [illegible]
M. P. C. Holt, D.S.O., honorary surgeon to the [illegible]
Governor-General of the East Indies, has been appointe
Senior Medical Officer on board the transport ss. *Plass*
leaving Bombay for Southampton on Jan. 9th, with invalid
and time-expired troops.

Major S. A. Archer has been placed under orders
join the Irish Command on Dec. 28th, and on arriv
will be appinted to the Belfast District for duty. Maj
J. E. Hodgson has been transferred from the Londo
District to the Northern Command and appointe
Specialist Sanitary Officer at Headquarters, York. Maj
H. W. H. O'Reilly has been placed under orde
for a tour of duty with the Ninth (Secunderaba
Division in India. Major G. St. C. Thom has been selecte
for appointment as Deputy Assistant Director of Medic
Services to the Lowland Division vice Major W. D. Erskin
Major B. F. Wingate has joined the London District. Maj
M. Swaboy and Major H. K. Palmer have been detailed f
duty on board the transport s.s. *Rewa*, which left Aden
Dec. 15th. Major E. W. Slayter has been directed to join th
Irish Command on Jan. 12th for duty in the Cork Distri
Major A. W. N. Bowen has been appointed to the Belfa
District. Major W. M. Power has been selected to ho
charge of the Military Families Hospital at Chatham. Maj
J. F. M. Kelly has been granted six months' leave of absen
from Colchester on medical certificate. Major G. A. Moo
has been selected for appointment as Specialist in Otolo
[illegible] the Aldershot Command. Major J.
[illegible] has been selected for appointment
[illegible] of Recruits to the Eastern Comman
[illegible] has been appointed to the Royal Arsen
at Woolwich.

Captain H. B. Connell has been appointed to Shrewsbur
Captain A. S. Arthur has been transferred from Liverpool
Wrexham. Captain A. W. Howlett has been appointed
the Military Hospital at Bareilly Cantonment. Captain G.
Rudkin has joined at Dublin. Captain W. E. C. Lunn has bee
detailed for duty on board the transport s.s. *Dongola*
leave Karachi for Southampton on Dec. 19th. Captain H.
Crossley has embarked for a tour of service in India. Capta
N. E. J. Harding has joined the London District for dut
Captain R. C. Fellowes has been transferred from Omagh
the Military Hospital at Holywood and appointed to ho
medical charge of the 1st Norfolk Regiment. Captain J. A.
Webster has been placed under orders for a tour of servi
with the Fifth (Mhow) Division of the Southern Army
India. Captain A. E. S. Irvine has joined the Royal Arm
Medical College on transfer from the Belfast Distric
Captain F. L. Bradish on return home from Jullundu
Cantonment, tour expired, has been appointed to the Milita
Hospital at the Curragh. Captain T. W. Browne ha
taken up duty in the Cork District. Captain R.
MacNicol has been placed under orders to embark fo
service in Malta. Captain J. L. Wood has joined th
Northern Command. Captain M. Keane has been place
under orders to proceed to India for a tour of servic
Captain G. S. Wallace has been appointed to the Milita

Hospital at Bellary Cantonment, Madras. Captain A. M. Rose has been transferred from the Military Hospital at Bordon to Longmoor. Captain G. H. Rees has taken up duty at Londonderry on transf

G. P. A. Bracken has been a

mand on return home from

tain F. C. Lambert has been

of duty with the Sixth (P

Army in India. Captain A. L. Otway has been appointed Specialist Sanitary Office

Captain

J. du P. Langrishe has

at Spike

Isla

Canton-

mei

has been transferred from

the

o the Northern Command

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel S. E. Prall, health officer to the Port of Aden, has been granted leave of absence home. Lieutenant-Colonel R. Bird, M.V.O., C.I.E., has returned to India from leave of absence home.

Colonel T. E. Dyson have been

the Commander-in-Chief in Ind

Haig has been granted two years' furlough and combined leave of absence home from India. Lieutenant-Colonel R. G. Turner has been transferred from Naini Tal to Moradabad and appointed Civil Surgeon. Lieutenant-Colonel J. Penny

n of leave of absence

Major F. W.

to

C.

Macleod has been selected for advancement to the rank of Lieutenant-Colonel. Major W. E. McKechnie, civil surgeon at Etawah, has been granted two years' furlough combined with general leave of absence home from India. H.E. the Governor of Bombay has selected Major F. H. G. Hutchinson on return from leave of absence

Commissioner to the Bombay

Lieutenant-Colonel T. E. Dyson.

been appointed Superintendent

during the absence on leave of

Major R. P. Wilson has been transferred to Calcutta and

Medical College,

appointed to

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Home Department on relief by Lieutenant-Colonel J. Ewens on return to duty from leave of absence. Captain E. P. Wernicke, on special duty at Pachmarhi, has been posted to the Seoni District as Civil Surgeon and appointed to the executive and medical charge of the Seoni Jail. Captain R. F. Hebbert has been granted two months' extension of leave of absence home from India. Captain R. E. Flowerdrew has been appointed to officiate in the Jail Department in Madras.

Lieutenant C. M. Plumptre has been appointed to officiate as Agency Surgeon in Bhopal State.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

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TERRITORIAL FORCE.

Royal Army Medical Corps.

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Major William M. H. Spiller, who vacates that appointment

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be Captain (dated

3rd East Lancashire Field Ambulance, Royal Army Medical Corps: Lieutenant Edward H. Cox to be Captain (dated Nov. 14th, 1913).

1st Northumbrian Field Ambulance, Royal Army Medical Corps: Captain Frank Hawthorn to be Major (dated Dec. 13th, 1913).

2nd West Riding Field Ambulance, Royal Army Medical Corps: Robert Garside Dixon to be Lieutenant (dated Nov. 1st, 1913).

Army Medical Corps:

signs his commission

edical Units.—Captain John G. Martin to be Major (dated Oct. 26th, 1913). Lieutenant Noel W. Kidston to be Captain (dated Nov. 1st, 1913).

tosh resigns his commission

than Medical Units.—William George to be Lieutenant (dated Dec. 13th, 1913). Captain Lionel H. Moiser resigns his commission (dated Dec. 10th, 1913).

TERRITORIAL FORCE ASSOCIATION OF THE COUNTY OF LONDON.

According to the annual report of Colonel Valentine Matthews, the County Director of the London Voluntary Aid Detachments, 79 detachments, with a *personnel* of 2230, were registered on Sept 30th. This shows a slight increase for the

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director and commandants of detachments should be brought into closer unofficial relation.

STAFF TOUR FOR MEDICAL SERVICES.

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Medical Services, Irish

Medical Corps officers

Rutherford, A. W. A.

H. B. Kelly and T. H.

Gibbon.

has been appointed surgeon to

with duties

the London

LITERARY INTELLIGENCE.—In a few days' time Messrs. J. and A. Churchill will publish the Medical Directory for 1914. In the year 1844 Mr. John Churchill, the grandfather of the present partners of the firm, issued the first of the series of volumes destined to occupy a permanent place on the shelves of so many practitioners. To celebrate its seventieth birthday the publishers have printed all names and addresses in black type. It is believed that this will arrest the eye and facilitate the work of ready reference.—Messrs George Routledge and Sons announce the forthcoming publication in January, 1914, of a "Handbook of Photomicrography," by H. Lloyd Hind, B.Sc., F.I.C., and W. Brough Randles, B.Sc., lecturer in biology, Derby Technical College, containing an account of the modern methods employed in photomicrography, with a description of the apparatus and processes used in the photography of small objects, from natural size up to the highest magnifications, stereoscopic photomicrography, cinematomicrography, and colour photomicrography.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1721.)

XXXI.—THE STRUGGLE IN WALES BETWEEN THE PANEL AND THE INSTITUTIONS.

THE possibility of withholding from panel service has hardly been entertained in the South Wales and Monmouthshire industrial and mining districts. In the mining villages private practice is regarded as possibly bringing in from £10 or £15 a year, and its chances are almost disregarded. The practitioner lives by contract work, and what little private practice there used to be is rapidly disappearing. In this respect a very important economic revolution is taking place which may alter the commercial conditions seriously. The individual or private tradesman is disappearing. The substantial grocer who could afford to pay fees to his medical attendant is everywhere being replaced by the salaried manager of some coöperative store or the representative of a big firm or company that has branch shops all over the district. Instead of dealing with independent tradesmen the medical practitioner has to deal with the employees of these great trading concerns, whose salaries do not reach the income-tax limit. These poorly paid shopmen cannot consult independent practitioners; they are themselves insured. This means a change in the money distribution of the country, converting the independent inhabitants of whole districts into persons employed for wages. In itself this is a very serious social and economic revolution, and its effect on independent medical practice has been disastrous. Some 20 years ago these "multiple shops," as they are called, were unknown in, for instance, the Rhondda. Now they abound on all sides, so that the private tradesman is a distinctly rare character. Already private practice is so scarce that many medical men have lost the habit of keeping accounts; some of them might get more from the private practice which they actually do if they remembered more accurately all visits for which they ought to send in bills. In such circumstances it was useless to expect the South Wales colliery doctors to go on strike against the Insurance Act. They disliked certain of the proposals of the measure, and many thought it would be found in practice that the old poundage system paid better than the new scheme; but the representatives from South Wales always warned the British Medical Association that whatever resolutions were passed a large number of practitioners would nevertheless be obliged to go on the panel. It was only at Cardiff, where there is some private practice, that a difficulty arose in forming the panel.

But with the purely rural practitioners of South Wales and Monmouthshire, as distinct from the colliery surgeons, the conditions are different, and there is not the same necessity to join the panel. Therefore, preparations were made to send down two medical men for whole-time service in Monmouthshire, but the practitioners of the industrial districts undertook to help the rural practitioners in the question of mileage or the difficulty of calls to long distances, and both parties ultimately agreed to follow the same policy—to go on the panel and there support each other.

Negotiations for the Dependents.

In the Eastern Valley, Monmouthshire, representatives of the workmen asked the local practitioners to state their terms for the dependents. The latter replied that there should be a poundage of 2½*d.* instead of 3*d.* as formerly. For reasons already explained 2*d.* may be thought enough; but the argument was brought forward that the 7*s.* from insured persons did not cover the 10*s.* 6*d.* for confinements and abortions, major surgery, &c. The medical men further asked that the question of numerous certificates should be considered. Formerly the men belonged to one club and only needed one certificate. Now they had two or three clubs, and there were the certificates for compensation and accidents, and these had to be renewed every week the patient was invalided. Also a patient must take a note to his works when he returns to show that he was legitimately entitled to be absent; thus five or six certificates are sometimes needed, while under the system prevailing before the Act only one certificate was necessary. All this takes up much time. Then the wife will come round for a certificate so as to keep her child from school. A practitioner has thus urgent need to employ a clerk. The doctors further submitted the question of strikes, during which period they had to do all their work gratuitously. During the last great strike some of the colliery doctors in the North of England were paid, but in Monmouthshire and South Wales not a penny was received.

When these points were submitted the men would not agree to any of them. The doctors thereupon withdrew the question of certificates and of strikes, and the men's representatives then replied that if the doctors would be content with a poundage of 2*d.* they would strongly advise the acceptance of the terms. The doctors surrendered the halfpenny, and their patients were warm in their thanks at first for the concession. But later they thought of another and a new point which they wanted the doctors to concede. It was that the money, collected according to the poundage system by the clerk or wage payer at the works, should be sent, not to the doctors to whom it was due, but to the workmen's committee. The men offered to hand over the cheque in full to the doctors, but if they were not going to take any of the money why should they have the cheque? This seemed to be an intention to acquire a hold over the doctors of an illegitimate and dangerous kind, and the medical profession absolutely refused to allow it. For the sake of harmony they had proved their readiness to make a considerable financial concession, and had in other ways shown a wish to be friendly, but the members of a highly trained profession could not place themselves at the beck and call of a workmen's committee to the extent that such a power over the purse as was desired would give.

Refusal to Serve Workmen's Committees.

Very similar negotiations took place in South Wales. At Briton Ferry and Neath representatives of the medical profession and of the workmen met to arrange terms for attendance on the uninsured, as, according to the policy of the British Medical Association, notice had been given to terminate all contracts by Jan. 15th, 1913. Here the men had substituted a flat rate of 3*d.* a week for all workers, married and unmarried, and their dependents. After the Act the doctors asked for 10*d.* for four weeks instead of the shilling paid formerly. This was met by saying that the single men, being now insured, refused to make any other payment, and the men wanted to fix a price for the families only. The doctors then asked the lowest figure approved in one of the public medical service propositions formulated by the British Medical Association—namely, 1*s.* 4*d.* per month per family. These terms might have been *accepted, but the men insisted that the doctors* should work under the control of a committee *elected by the working men, and all the money was* to go through the hands of this working man's committee. A deadlock ensued. The doctors did not consider that such a committee possessed the right or the capacity to secure such control.

A certain number of influential working-class men and leaders thereupon set to work to form schemes; and, unfortunately for them and all concerned, were encouraged in their course by the Welsh Commissioners. Thus at Briton Ferry, as early as March this year, the local trades and industries formed a committee. After holding several meetings at different works and electing *representatives this committee called itself* the Briton Ferry Workmen's and General Institution for Medical and Surgical Treatment. They were recognised by the Insurance Committee as a system under Section 15, Clause 3. They began to provide medical aid on April 15th—that is, three months after the Act had come into force—though Clause 4 of the same section of the law only recognises systems that were in existence before the adoption of the Act. To the lay mind this all seems highly irregular, but I do not attempt to decide upon what the legal discretions of an extraordinarily powerful public department may be.

Disastrous Effect of Schemes under Clause 3.

The managers of the Briton Ferry scheme advertised for doctors and appointed two whole-time men, one at £350 and the other at £250 a year. They *claim to have about 2000 insured persons as* members, and at 9*s.* this represents £900, a part of which sum comes from the British taxpayer—i.e., from the entire community, yet it is allowed to go into the coffers of a private and uncontrolled association or enterprise. The medical men must also attend on the dependents of the insured. The association tries to get 1*s.* per month for every family, but whether it succeeds or not the medical *staff get no extra pay for attending on the* families. It provides the surgery and the drugs, but does not house the medical officers. The scheme receives under the Act £900 a year for 2000 insured persons, and pays £600 a year to the medical men for attending to a population that includes the dependents on the insured. The total population of Briton Ferry now amounts to close upon 9000 persons, and of these 3000 are insured. As the scheme takes over 2000 of the insured with their dependents, it provides medical aid to two-thirds of the entire population. There is therefore only one-third of the population remaining for the panel doctors. Formerly there were two panel doctors who each employed an assistant. These two local practitioners with their assistants attended to the entire population of 9000. Now that the scheme has taken away from them two-thirds of their panel practice, *they have lost much* of their income, and have been compelled to dispense with the services of their assistants.

This is a good illustration of the devastation these institutions may bring about, and there are seven such schemes in Glamorganshire, though fortunately they are not proportionately as mischievous. Nowhere has the individual practitioner and panel doctor been hit so hard as at Briton Ferry, and I am extremely glad to have been able to investigate the situation on the spot. Close to, at Neath, a similar system was started, but though they have to deal with a larger population they only employ one medical officer and have not secured more *than 1000 insured persons as members.* At Port Talbot, likewise close at hand, a system was *attempted, but notices* were issued to the medical profession with the result that no one applied for the post of medical officer. It is indeed surprising that these schemes are able to recruit any sort of medical staffs. Larger incomes than any salaries which such organisations will ever offer can now be easily obtained in highly reputable positions, and the contracting-out institutions will have only themselves to thank if they find that they secure inferior service. Good service can command better pay. I cannot attempt to explain why medical men with good reputations should accept a salary of £250 a year *from an institution* when, *if they went on the panel* in a populous district of an industrial centre where the panel is not overstocked, they would soon make [illegible] ieir professional [illegible] it easy to under- [illegible] imilies join such schemes and run the risks attached to them. As a matter of fact, many workmen have found out their mistake and are very anxious to leave the schemes to which they belong and return to their old works doctors who are now the panel doctors. Many medical practitioners have expressed the opinion that by the mere force of superior merit the panel doctors could beat the institutions out of the field if there was fair play and if no underhand pressure was brought to bear on the public. The view has certainly a substantial foundation. In the Eastern Valley, for instance, I found that one single practitioner had a hundred transfers from members of the local scheme; but *no one knows how many transfers* there may be from panel doctors to this and other schemes. Many *practitioners protested* to me that these schemes would not be successful but for the unfair pressure exercised on ignorant or indolent people, and which has become possible because of the attitude of the Welsh Commissioners.

The Resistance against the Institutions.

In the Eastern Valley a scheme has been working since May, and its promoters are lucky in having, as yet, no scandalous breakdown to explain. The absence of epidemics has been fortunate for them, but even in quiet times some startling complaints have been made. At Blaenavon there is a scheme that absorbs three-quarters of the entire population, *so the panel doctors* and chemists are hit very hard. This scheme has imported six medical men, and, one having left, is now employing at fixed salaries five doctors to do the work which has been taken away from the 11 old-established local practitioners. In urgent or serious cases some of the insured members of this scheme have returned to their old doctors and paid full fees. When asked why they had joined the scheme they *replied they* had been compelled. They feared they might be persecuted if they refused. Now this sort of thing is entirely contrary to the spirit of the Act, and defeats every clause, section, and regulation devised to secure the best medical attention by the best available man for the insured public. A notice should be put up in all the collieries and works to the effect that the employed are free to select their medical adviser and that they run no risk of losing their employment if they exercise this freedom. The local practitioners are demanding fair play, and even under the present conditions of pressure the workmen are leaving the institutions and the imported medical officers to return to their old doctors, with whom they have had life-long friendly relations and whom they have learnt to trust. The majority of the working men never wished for any change, and many, though belonging to these working men's organisations, consult their old doctors and pay them full fees.

The rise of these institutions has been very simple. Their secretaries get a wholesale supply of transfer forms and fill in the names. Protests have been made that this is occasionally done without the consent of the persons concerned. Letters to this effect were sent to the Insurance Committee of Glamorganshire and to the Welsh Insurance Commissioners. The former body replied that there was not much in the complaint, and were then told there were several witnesses ready to testify. To this an answer was given that an investigation would be made; but though this was said last July, nothing has been done. It is maintained that several persons have been transferred to schemes without their knowledge. The authorities seem to help insured persons to join the institutions, but make it difficult for them to return to the panel doctors; thus they appear to use their influence against the interests of the Act and of the general public. If an insured person desires to leave an institution he must draw up and send a written notice according to the rules of the institution in question, but if he wishes to transfer from his panel doctor to an institution he is not obliged to write out some special notification.

Fortunately, there is an easy means of putting an end to all these grievances. As indicated in my previous article, the example given by the staff of the Swansea General Hospital must be followed throughout the country. When members of these institutions or schemes find that they will be refused advice or admission at the hospitals there will be a general stampede of membership. The conspiracy to defeat the Act by allowing collectivities to contract out of the Act will fall to pieces, and the patients will be restored to the panel doctors.

(To be continued.)

UNIVERSITY OF BRISTOL: LONG FOX LECTURE.—The eighth of this series of annual lectures was delivered recently in the Physiological Theatre by Dr. F. H. Edgeworth, who chose as his subject the Motor Nuclei and Muscle-sensory Fibres of the Cranial Nerves. He described various ingenious experimental and other investigations by which he had been enabled to prove the presence of this type of fibre in the facial and other cranial nerves; researches which, with those of other workers, had proved or shown probable the existence of such fibres in all the cranial nerve-supplying muscles. The second part of his lecture dealt with the classification of the motor centres in the pons and medulla, showing that the usual division into a central somatic and a lateral splanchnic group is not strictly justified, since the lateral group contains somatic as well as splanchnic nuclei. Considering the abstruseness of the subject, the lecture was remarkably lucid, a result to which some excellent diagrams contributed largely. Sir Felix Semon, who was among the audience, congratulated the lecturer, adding some comments as to the innervation of the laryngeal muscles.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Tuberculosis Scheme.

LIVERPOOL, I believe, has the honour of being the first city to formulate a complete scheme for the prevention and treatment of tuberculosis. The scheme has been approved by the Local Government Board and the Insurance Commissioners. The objects of the scheme have been tabulated as follows:—

1. That it should be available for the whole community.
2. That those means which experience has proved to be most effective should be adopted for the prevention of the disease.
3. That a definite organisation should exist for the detection of the disease at the earliest possible moment.
4. That within practical limits the best methods of treatment should be available for all those suffering from the disease.
5. That concurrently with the measures for prevention, detection, and treatment, provision should be made for increasing the existing knowledge of the disease and of the methods for its prevention, detection, and cure by way of research.

There will be a temporary central dispensary at the Consumptive Hospital, Mount Pleasant; a south dispensary at 4, Dingle Hill; and a north dispensary at 330, Netherfield-road North. Nursing of insured persons and their dependents receiving domiciliary treatment has been undertaken by the Queen Victoria Nursing Association. The Jewish board of guardians have agreed to provide institutional treatment for members of their community at the Daneswood Sanatorium, Woburn Sands, Bedfordshire. The hospital beds that are available or that are contemplated are at the corporation sanatoriums, Parkhall, 200; Fazakerley, at present 80, to be ready soon 350. At voluntary institutions: Kingswood Sanatorium, Delamere, 40; the Chest Hospital, Mount Pleasant, 30; Royal Southern Hospital, 26; Northern Hospital, 28; the Royal Infirmary, 20; the Stanley Hospital, 10; the Infirmary for Children, 12; the Children's Convalescent Home, West Kirby, 50; the Country Hospital for Children, Heswall, 53; Sanatorium for Children, Leasowe (building), 100, increasing to 200; the Children's Rest (not stated). The Local Government Board are prepared to make grants to the council in accordance with the recommendation of the Departmental Committee: for dispensaries four-fifths of the amount required for the provision and equipment, provided that this sum does not exceed £1 per 750 population, or an average of £240 per dispensary; for additional sanatorium beds for adults three-fifths of cost per bed, provided the total sum contributed out of Government does not exceed an average of £90 per bed; the grants for other beds have not yet been fixed. The approximate annual cost of the scheme is close on £40,000 per annum, the largest part (£25,000) being for 350 beds for pulmonary consumptives, £6500 for 200 beds for tuberculous children, 40 beds for tuberculous adults at voluntary hospitals £2860, and the three dispensaries £2550. This expense will be defrayed by a grant from the Insurance Committee £8250, from the Treasury £15,580, and from the rates £15,580, so that the rates will be increased by about £7580, as £8000 is already being expended. The increase is equivalent to ½d on the rates In connexion with this scheme it is proposed to make alterations at the Fazakerley Hospital by removing the present small pox beds to a new building These beds will become available for tuberculosis patients

Wigan Medical Society

This society held their biennial dinner on Dec 11th, under the presidency of Dr. J T Shirlaw Over 30 members and guests spent a very pleasant evening together The guests included Dr H Briggs, Mr W. Thelwall Thomas, Dr J Hay, Dr A G. Gullan, Dr Forbes (representing the Liverpool Medical Institution), and Mr A A W Merrick (representing the St Helens Medical Society)

Dec 16th

SCOTLAND

Medical Treatment in Scottish Schools

REGULATIONS under which grants in respect of the medical treatment of necessitous school children during the period extending from Feb 1st to Dec 31st, 1914, will be made by the department were recently issued by the Scotch Education Department It is pointed out that the treatment contemplated does not extend to the provision of medical attendance in cases of accident or of a casual or serious illness, nor does it extend to the provision of education and maintenance on behalf of blind or deaf mute children, or those defective mentally, or epileptic It would, however, cover cases of defective vision, defective teeth, and similar ailments which may be said to affect the general health or, at any rate, the educative capacity of the child The department also require that, except in circumstances of very special difficulty, all treatment shall be given by fully qualified specialists or general practitioners, according to need The department will also be prepared to consider the question of making grants for open air schools for children suffering from tuberculosis or other ailment requiring open air treatment

Indian Students at Edinburgh Medical School

At a public meeting held in Edinburgh recently, which was attended by over a hundred Indian students, hostile sentiments were voiced towards the newly formed subcommittee of the Advisory Council, which is to inquire into "any and all grievances which Indian students may have to bring forward, whether against educational or any other institutions of this country (including the Bureau for Information at 21, Cromwell road, London)." The following resolution was carried by the meeting —

> That this meeting of Indian students in Edinburgh finding that Indian students have no special grievances apart from those which they may have as members of the University equally with students of other nationalities, resolves that no useful purpose would be served by placing [illegible] subcommittee of the Advisory [illegible] ha Office, and are convinced that [illegible] the future, as they have done in [illegible] attention of the University and other educational authorities

Tuberculous Patients in Edinburgh Poorhouses

At a statutory meeting of the parish council held on Dec 8th the question of the treatment of patients with pulmonary tuberculosis in their wards was dealt with, and a report dealing with this subject during a period of the last three years was read. The advisability of compulsory retention until non infectivity was established was strongly advocated, and the small percentage of cures—only 1 per cent —was explained by the fact that practically all the cases were advanced ones, and that many of these were in and out of the wards over long periods, one patient being admitted as often as 43 times A certain number of the beds available for phthisical cases at the Craiglockhart poorhouse are now to be under the charge of the public health authorities, and thereby their available beds for earlier cases will no doubt be considerably augmented

Local Government Board and Typhoid Fever in Aberdeen

At a recent meeting of the public health committee of the Aberdeen town council a letter was read from the Local Government Board stating that the Board had had under consideration the report of Professor Matthew Hay, medical officer of health, on the outbreak of typhoid fever in the city of Aberdeen during the autumn of 1912 The Board draw the attention of the local authority to Dr. Hay's conclusions, and inquires what action the local authority have taken or what measures they propose to take in order to safeguard the purity of the city's water supply The letter was referred to the water committee, who had replied that steps have been taken by the committee with regard to the lining and filtration of the water supply The committee also detailed the larger scheme now under review

Dec 16th

IRELAND

School Dental Clinics

THE Commissioners of National Education have notified school managers and teachers of the facilities now available for the dental treatment of school children Schemes for the dental examination and treatment of pupils may now be submitted to the Commissioners, who are empowered to bear half the expense Though successful schemes are working in a few areas, the Commissioners still have a considerable sum of money at their disposal, and they are anxious that it should be utilised before March 31st, 1914 In the absence of a general scheme of medical inspection, which the Commissioners would like to see established, the care of the teeth of the children is an essential of all school hygiene

Scarlet Fever in Belfast

The scarlet fever outbreak here shows no signs of lessening, and on Dec 11th, it was reported that for the week ended Dec 6th 84 cases had been notified, which is an increase of 17 on the previous week At one end of the city a local outbreak of the disease has also occurred, it is said, by milk conveyance The public are becoming very uneasy as the epidemic continues without abatement, and the public health committee have asked their officials if they can suggest any means to stop it As a result, two medical men have been appointed to visit the primary schools to examine the children, and already they have detected many mild cases that had not been noticed or reported, some in the stage of desquamation Another suggestion should be acted upon, and that is to appoint one or two assistant medical officers of health as it is impossible to expect one officer of health to look after a city with a population estimated at the middle of 1913 as being

THE NATIONAL INSURANCE ACT.

Clause 2 (ii.).

At a recent meeting of the Cardiff Insurance Committee the Local Medical Committee submitted an amendment to the clause in the new model agreement which seeks to prohibit the practitioner from accepting any fee or other remuneration in respect of treatment which he is required to give to an insured person under the agreement. The amendment, which would have prohibited the demand, but not the acceptance, of an extra fee, was lost after a discussion in which reference was made by a speaker to the question as one of "tipping the doctor." The offensiveness of this phrase was pointed out by the Lord Mayor, and the reasonableness of the amendment, from the point of view of more well-to-do patients, as well as of their medical attendants, was dwelt upon by more than one speaker. In Middlesex amendment of the clause has been sanctioned by the Insurance Commissioners, so that there is added to it (the word "accept" being retained)—

> But nothing in this agreement shall be construed as prohibiting the acceptance by the practitioner from an insured person of such fees as may have been agreed between them in writing as a condition of the acceptance by the practitioner of the insured person where the places of residence of the insured person and the practitioner are so situated that access between them is by reason of distance or otherwise difficult or inconvenient, and where there is another practitioner upon the panel by whom the insured person might have been accepted, or to whom he might have been assigned, and whose residence is nearer to that of the insured person or is less inconvenient of access.

The intention of this would appear to be to prevent the medical practitioner where he is free from competition from taking advantage of his position, while according a limited freedom of choice in the matter to the patient. The Middlesex Insurance Committee has also agreed to make a minute that "the phrase 'accept any fee or other remuneration' does not include a present or a gift made by an insured person to a doctor. Cheshire resolutions of the Medical Ben " In committee adopted by the Insurance Committee include one:—

> That the subcommittee consider it undesirable that any alteration should be made in the wording of Clause 2 (ii.).

At Birmingham a subcommittee of the statutory Medical Committee has recommended that after the word "remuneration" should be inserted the words "from the patient." At Ipswich a discussion took place at a meeting of the Insurance Committee, but a proposed amendment of the clause having for its object the substitution of "demand" for "accept" was lost by a considerable majority. The attitude of the Commissioners on the subject in opposition to any alteration was referred to by a speaker as "adamantine."

The National Insurance Practitioners' Association.

At a general meeting of members of the National Insurance Practitioners' Association, held in the Caxton Hall on Dec. 12th, a report was presented of a year's hard work. Having been formed for the specific purpose of inducing men to accept service under the National Insurance Act and to look after the interests of those accepting such service, the association, by means of a very energetic campaign, was able to complete the first part of its programme in a little over a month from its formation, for by that time panels were complete in most areas. The association strove energetically for the simplification of the records, and its influence contributed largely to the Amending Act of 1913 Under this Act panel committees are appointed and recognised by statute, and provision is made for financing them. From the fact that strong panel associations are already in existence or are being formed in London and throughout the country, and that steps are being taken to link these up in one central body, it was considered advisable that the National Insurance Practitioners' Association, having completed the work for which it was called into being, should no longer exist as a separate organisation, but that its members should join their various panel associations and support the central body.

National Medical Guild.

The National Medical Guild is holding a meeting of medical practitioners to-day (Friday, Dec. 19th), at 4 p.m., at the Hammersmith Town-hall, to discuss the value of trade unionism for the medical profession The chair will be taken by Dr. Charles Buttar president of the Guild. Mr. E. B. Turner will open the discussion in favour of a trade union. Speeches and questions from the audience will be invited, and a resolution will be put to the meeting at 6 o'clock.

The Temptation to Malinger.

A man was fined 40*s*., with the alternative of 14 days' imprisonment, recently for making a false representation for the purpose of obtaining benefit under Part II. of the National Insurance Act, 1911 the representation being in effect a denial that he was receiving sickness benefit when in fact he was drawing it. As the magistrate observed, it might pay the defendant better to be sick than to be unemployed, but it paid him best to be both, so he drew 10*s*. from his society, 7*s*. from the Labour Exchange, and half wages under the Workmen's Compensation Act. It need hardly be pointed out that when the legislature renders idleness so remunerative the task of the medical man, upon whom is cast the duty of distinguishing feigned from real illness, is not likely to be an easy one.

Ipswich Insurance Committee.

In addition to the question of Clause 2 (ii.) mentioned above, the Ipswich Insurance Committee discussed at a recent meeting, and agreed to, a new tariff for drugs, excluding a proprietary article of which the contents were not publicly disclosed The committee also considered the conditions subject to which insured persons should make their own arrangements with medical practitioners when permitted to do so. A new scale had been proposed for this to replace an arrangement by which practitioners not on the panel had agreed to treat patients on the same terms as those on the panel Questions were settled as to the date of commencement and financial details under the new arrangement by which, it was mentioned, non-panel practitioners would charge 3*s*. 6*d*. for special visits instead of 2*s*. 6*d*., and 5*s*. instead of 3*s*. 6*d*. for night visits.

ABERDEEN INSURANCE COMMITTEE: ALLOCATIONS TO PANEL PRACTITIONERS.

At a meeting of the Medical Benefit Subcommittee of the Aberdeen Burgh Health Insurance Committee held on Dec. 8th a letter was read from the Scottish Insurance Commissioners approving of the following recommendations by the subcommittee.—

1. That no doctor with more than 1000 insured persons on his list as on Dec. 1st, 1913, should participate in the allocation.

2 That no doctor with fewer than 10 patients on his list as on Dec. 1st, 1913, should participate in the allocation.

3. That no insured persons should be placed upon a doctor's list whose surgery or residence was over two miles from the patient's home.

4. That insured persons should be allocated as equally as possible amongst the doctors entitled to share in the allocation.

5. That the doctors with the above qualifications, who came on to the panel after Jan 12th, 1913, should share equally in the allocation, but that the payments should be made only as from the date upon which they joined the panel.

An amendment was moved that the inverse ratio should be adopted instead of the equal division, but ultimately the recommendations above detailed were adopted, and should the City Health Insurance Committee approve, 35 practitioners will receive about 100 additional patients each.

A PROPOSAL AT MANCHESTER.

Mr. E. Lloyd Jones, chairman of the Manchester Insurance Finance Subcommittee, recently addressed a long letter to the *Manchester Guardian* in support of a proposal made by him to administer benefits under the Insurance Acts by engaging medical practitioners as full-time paid servants of the Insurance Committee, to treat 1500 patients each in return for salaries of £400 a year. This, it will be seen, would mean sweating any members of the medical profession willing to be engaged at about 50 per cent. less than would be their due under the capitation system for the same number of patients. The amount saved Mr. Lloyd Jones would devote to employing specialists and nurses. He writes, "I am not concerned so much about what Mr. Lloyd George promised. What I am concerned about is that the insured persons shall get their rights." Certainly what Mr. Lloyd George promised to insured persons (which they presumably regard as their rights) would not be obtained for them by reverting to the kind of terms associated with the evils of club practice. Medical men also will no doubt consider that they, at any rate, are concerned with their own rights under the Insurance Acts, and with the fulfilment of promises made to them by the Chancellor of the Exchequer.

THE Royal Dental Hospital, Leicester-square, has received £5 as a Christmas donation from H M. the Queen.

THE Metropolitan Asylums Board has appointed Dr. E B Sherlock, who has been in the service of the Board for several years, to be medical superintendent of Darenth Industrial Colony, in place of Dr. Arthur Rotherham, who has been appointed a Commissioner under the Mental Deficiency Act, 1913. Dr. J. L. Gordon, assistant medical officer at Caterham Asylum, has been promoted to fill the resulting vacancy of acting medical superintendent at the Fountain Temporary Asylum.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND—At a meeting of Council on Dec. 11th, 1913, diplomas of Fellow were conferred upon 28 candidates who successfully passed the final examination which was held on Nov. 20th, 25th, 26th, 27th, 28th, and 29th last, for which 68 candidates presented themselves The following are the names and schools of the successful candidates.—

[illegible] M R C S, L R C P, [illegible] Hospital, Philip [illegible] sex and London [illegible] M R C S, L R C P, [illegible] Lond, M R C S, L R C P, London Hospital, Trevor Berwyn Davies, M D, B S. [illegible] M B, B S Lond, M R C S, L R C P, and Clement Treves Neve, M B, B S Lond, M R C S, L R C P, St Bartholomew's Hospital, Robert Anstruther Ramsay, B C Cantab, M R C S, L R C P Cambridge University and St Bartholomew's Hospital, Edward Gustave Schlesinger, M B, B S, B Sc Lond, M R C S, L R C P, Guy's Hospital, Norman Duggan, M B, Ch B Vict, M R C S, L R C P, Manchester University and University College Hospital, Wilfrid Archer Sneath, M B, Ch B Manch, M R C S, L R C P, Manchester [illegible] Hospital, Sidney Bertram Radley, M B [illegible] Durham University

Licences to practise Dentistry were conferred upon 54 candidates who have passed the requisite examinations and complied with the by-laws —

Leslie Alabone, Guy's Hospital, Henry John Farrow Alexander, Middlesex and Royal Dental Hospitals, Reginald Hugh Basker, [illegible] Middlesex and Royal [illegible] B A Lond, Middlesex and Royal Dental Hospitals, Stanley [illegible] Bristol University [illegible]

The diploma of M R C S was also conferred upon Aaron Simeon Cohen, Cardiff and Westminster Hospitals, and Tribhovandas Oghaddas Shah, L M S Bombay, Bombay University and London Hospital.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mrs. C. Anderson, Lond.; Messrs. Arnold and Sons, Lond.; Messrs. Armour and Co., Lond.; Alnwick Infirmary, Secretary of; Dr. E. Ash, Lond.; Army and Navy Male Nurses' Co-operation, Lond.; Mr. O. L. Addison, Lond.; Aberdeen, Medical Officer of Health of; After-care Association, Lond., Secretary of.

B.—Mr. A. C. Burrows, Carlisle; Mr. G. Bishen, Simla; Messrs. Butterworth and Co., Lond.; Dr. W. T. Beswick, Buxton; Messrs. W. H. Bailey and Son, Lond.; Messrs. Burroughs Wellcome and Co., Lond.; Messrs. W. Baker and Co., Oxford; Blackburn and East Lancashire Infirmary, Secretary of; Messrs. Foster Brown and Co., Montreal; Mr. F. A. Brockhaus, Lond.; Dr. G. M. Blair, Lond.; Messrs. Baillière, Tindall, and Cox, Lond.; Dr. Haydn Brown, Chislehurst; Dr. C. Burnham, Windsor; Board of Education, Lond., Secretary of.

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J.—Mr. J. E. L. Johnston, Bude; Mr. J. Jackson, Abergwynfi.

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THE LANCET, December 27, 1913.

The Purvis Oration

ON

SOME POINTS IN THE DIAGNOSIS AND TREATMENT OF GRANULAR KIDNEY.

Delivered before the West Kent Medico-Chirurgical Society

By SAMUEL WEST, M.D. Oxon., F.R.C.P. Lond.,
CONSULTING PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL, ETC.

Mr. President and Gentlemen,—The list of distinguished men who have preceded me as Purvis Orators shows what a great compliment it is to be invited to deliver this oration. I appreciate the honour very highly, and I trust that the contribution of to-night will not fall short of the standard set by my predecessors.

Dr. Purvis, in whose honour this oration was established, was a practitioner of wide experience, to whom the clinical side of medicine would most forcibly appeal, and in casting about for a subject I tried to select one which I thought would have met with his approval. Granular kidney seemed to me such a subject. It is a common disease, the interest of which is ever new, for it is constantly appearing in unexpected shapes, prepares for us many surprises, is by no means rarely overlooked, and presents many points of theoretical interest and of practical importance which may be worthy of our consideration. Although in the later stages the disease is past cure, still by an early diagnosis I believe much may be done to minimise its gravity, diminish its risks, and delay its progress.

Etiology.

Granular kidney is an entity. It is a true disease, for it has definite morbid lesions, and definite clinical signs associated with them, which render diagnosis easy during life.

Shrunken kidneys were long known and described, but it was not until Gull and Sutton wrote that this affection was recognised as a disease. They drew attention to the changes in the blood-vessels and heart which were associated with the renal lesions, and gave the disease the name of "arterio-capillary fibrosis." Since then discussion has never ceased to rage as to the relation between the vascular and renal changes. The possible relation is threefold: (1) the renal changes may be primary, and lead to the vascular; (2) the vascular may be primary, and the renal secondary; or (3) both the renal and vascular changes may be joint results of some common cause. In spite of more than 40 years' discussion the problem is still unsettled.

Granular kidney is the best name for the disease, for it is the one generally accepted and best understood. Granular kidneys would be more accurate, for both kidneys are always affected and to a similar degree. The lesions are symmetrical and bilateral, never unilateral or local. This symmetry may be used as an argument in favour of some general cause to which the vascular and renal lesions alike are due, and there is the analogy of peripheral neuritis to support it. For peripheral neuritis, if bilateral, is always due to some general cause of a toxic character, like poisoning by alcohol or arsenic; whereas if it be unilateral, it is the result of some local cause. All local affections of the kidney, whether leading to shrinking or not, may be at once cut off, for there is not such a thing as granular kidney in which one kidney alone is affected.

Granular kidney is a form of chronic interstitial nephritis, yet all forms of chronic interstitial nephritis, even if bilateral, are not granular kidney. For instance, the gouty kidney, so-called, is a mixture of interstitial fibrosis with cell degeneration, yet gout has nothing essentially to do with granular kidney, for even in long-standing gout the kidneys need not be granular, nor is gout more than an accidental—i.e., not a necessary—accompaniment of granular kidney.

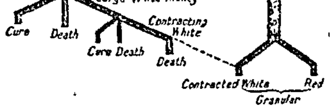
Clinical Evidence and Morbid Anatomy.

Both gout and lead are frequently given as causes of granular kidney. They are not infrequently associated with it, yet the true relation is probably the contrary to that suggested, the patients being especially liable to these affections, because their kidneys are granular and elimination defective, so that they are not causes of granular kidney, but its consequences.

Granular kidneys are usually small, but not necessarily, for they may be large and considerably above normal weight. Just as in alcoholic hepatic cirrhosis the liver may be large or small—i.e., above or below normal weight—so may granular kidneys. Renal cirrhosis would not be a bad name if it were understood that the whole of the renal organ—i.e., both kidneys—must be involved, as is the whole liver.

Two forms of granular kidney are described, the *contracted white* and the *contracted red*, and it is suggested that the difference in colour connotes a difference in cause, the white being the result of past inflammation and the red not. If this were so it ought to be capable of easy proof. Acute nephritis may certainly as a pathological process lead to interstitial change and some fibrosis, and in the end it may be to extreme wasting and contraction —i.e., to granular kidney; but if this often happened there ought to be no lack of clinical proof of it, for acute nephritis is a common affection enough, and its symptoms are too obvious to be overlooked. Yet clinical evidence is strikingly defective; I have looked for it for years, and have not seen a single clinical case which I could regard as conclusive, though I have met with many that pointed to an opposite conclusion. The two forms of granular kidney, the contracted white and the contracted red, are about equally common in the post-mortem room. If the contracted white kidney be as common as this, and the theory stated be true, the history of antecedent acute nephritis ought to be frequently obtained, and yet it is not.

It is impossible during life, either from the clinical history or symptoms, to forecast with probability whether the kidney will be white or red. There is, of course, the same chance of guessing rightly as there is in tossing a halfpenny, but no more. I do not believe, therefore, that there is any difference between the contracted white and the contracted red granular kidney



that he had gradually resumed his ordinary way of living, though he was careful in respect of wine and tobacco, delegated as much of his work as he could, and took more frequent holidays.

Though the medical man had no doubt good reasons for his anxiety at the commencement of the patient's illness, it is clear that the lowering treatment had been continued too long until the health suffered seriously. It is interesting to know that in spite of the stringent and lowering *régime*, and the effect this had had upon the health, the effect upon the blood pressure was *nil*.

I saw the patient again two years or so later. He had been in perfect health, and was passing through London on his way home after a good holiday abroad. The weather was very hot, and he was overcome one day with what he called a faint. When I saw him there was slight weakness of the left arm which he complained of, as well as some thickness of speech, and the left side of the face was somewhat smoothed out, and moved imperfectly. He had evidently had some incomplete thrombosis of one of the subdivisions of the right Sylvian artery. In a few days he had greatly improved and was able to continue his journey to his home, which he reached safely. My account of him at present is incomplete, but I hear he is much better, though not quite well or strong enough to undertake his old work. This attack is, no doubt, the consequence of the degeneration in his arteries to which I have said the high pressure was likely to lead. The most careful examination failed throughout to give any evidence of renal disease. The arteries were not at all thickened—indeed, if anything, they were unusually thin and supple for his age.

Albuminuria.

Of albuminuria there is not much that I need say. The amount of albumin is usually small, sometimes merely a trace. The most important fact about it is that it may be absent at some time of the day or even be absent altogether for days or weeks. As a rule, however, it is persistent, and does not vary much in amount from day to day or at different times of the day.

Albuminuria is a symptom, and not a disease. It is of importance because it ought not to be, and is a sign of something wrong. Its significance varies especially with age. In schoolboys and young adults, it is common, and is then often called physiological, but physiological it cannot be, though it need not be renal. In schoolboys it is met with in two types: (1) in one the schoolboys are well developed, muscular and active, and apparently in vigorous health; and (2) in the other the boys are rather weedy, pale, or overgrown. In either case it is an affection of the age period and disappears as the boys grow up.

There is another class of the kind which has been called accidental albuminuria, and which is of importance. This is met with in athletes, university crews in training, football players, young recruits after drill—in fact, in young adults who are using their muscles violently. It disappears when the muscular effort is given up, and is not followed by any permanent mischief.

As long as albuminuria occurs as the only symptom in the young it is probably of no significance, but if it be associated with other signs, and especially with arterial thickening, even in slight degrees, more caution must be taken in pronouncing it to be of no gravity. For it may be the early state of granular kidney, for this is a disease which commences in early life and is not really rare in the quite young. Even when albuminuria is the single sign, its gravity increases with every year of age after 25, because of the increasing probability of its being due to granular kidney.

Even when a history of acute nephritis is obtained in earlier life, so that the albuminuria is in all probability due to some renal change it does not follow that the kidneys are involved to any great extent. For the acute nephritis may have resolved completely in one kidney and not in the other, or in both kidneys to a great extent—it may be of 9/10, 19/20, or 49/50. Yet the little patch of chronic mischief left will be quite sufficient to account for the amount of albumin present. In such cases the condition of the kidney must not be assumed on theoretical grounds, but must be determined by careful investigation. If there is no evidence of renal inadequacy the albuminuria may be of little importance, and life run its ordinary course to its usual span.

As the amount of albumin lost is so small, it is too little in itself to have any effect upon the health, and if the health suffer it is the result of other causes. The albuminuria need not, therefore, be drastically treated. Moreover, the strictest dieting often produces no effect upon it, though it may have a disastrous effect upon the health. Even if the albuminuria could be made to disappear, its disappearance would not show that the disease was cured, but a useful clinical indication would have been lost. As a matter of fact, treatment in these cases has little effect or none at all. As with raised arterial tension, so with albuminuria, treat it if need be, but beware of over-treatment.

Albuminuric Retinitis.

Of albuminuric or renal retinitis there are two forms—the one pathognomonic of granular kidney, the other not.

The one is *inflammatory*, and might continue to be called retinitis. It is associated with much swelling of the disc and retina, and might therefore be called *exsudative*. It is exactly the same as other forms of exsudative or inflammatory retinitis, and cannot be distinguished from them, and so it comes that mistakes in diagnosis have been made, for example, between granular kidney and cerebral tumour, especially when headache has been the prominent symptom.

The other form is *degenerative* and not inflammatory. It would be better to describe it as *renal retinal degeneration*. This is *sui generis*, and pathognomonic of granular kidney. I do not know of any retinal change like it, and when it is present granular kidney may be diagnosed with certainty.

The *acute exsudative form* is probably toxic in origin. It is met with in acute nephritis as well as in chronic. In acute nephritis it may resolve and completely disappear, leaving no defects of vision behind. In chronic nephritis it is more serious, and does not as a rule resolve because the renal condition has got beyond the stage of recovery.

There is no relation between the two forms, and it is not true to speak of the exsudative form as a later stage of the degenerative. They are distinct conditions, associated sometimes together, and due to different pathological conditions.

The *degenerative form* being pathognomonic of granular kidney deserves a little further consideration. It consists in the presence of small white glistening patches like crystals of cholesterin or the scales of a fish. These patches may be very tiny and require very careful searching for, but when found they are conclusive. They are patches of retinal degeneration and atrophy. In the most marked form they constitute the cart-wheel or spoke-like radiations round the yellow spot, but, of course, this is only an advanced condition. The spots are more interesting and important when they are few and tiny, for they may be accompanied by no defects of vision and be discovered only by routine ophthalmoscopic examination. They may be associated with hæmorrhages, but these present *nothing characteristic*.

The spots being patches of degeneration rarely, if ever, disappear. I used to say never, and practically this is really true; but if the renal condition improve they possibly may, and I think I have had one or two such cases under my own observation. What is very important is that they may be present and characteristic when the other signs of granular kidney may be open to question, so that they are of the greatest diagnostic importance.

Renal retinal degeneration is a late symptom or a sign of advanced disease. It used to be said that it meant that the patient had not more than two years to live. That is in a general way true when the degeneration is well marked, but it is not possible to say how long it had existed before it was looked for. I have seen the tiny spots long before any grave general symptoms appeared, and I have met with cases of advanced degeneration with much hæmorrhage which lasted to my knowledge five years and seven years respectively.

A year or two ago a gentleman, 40 years of age, was sent to me with the history that he was attacked with uræmic fits about six months previously, and on examination of the eye advanced albuminuric degeneration with much hæmorrhage was discovered. A grave prognosis was given, with which I entirely agreed. I certainly thought the case almost hopeless, but I put him upon renal extract, which was steadily persevered with for many months. He gradually recovered and is now well. The fact of his complete recovery from the eye as well as the renal symptoms makes me feel some hesitation about the correctness of the diagnosis, but the condition seemed plain enough at the time, and no one who saw him when first ill, either physician or ophthalmologist, had any doubt. I have never seen any other case like it, and I record it for what it is worth.

TREATMENT.

I cannot at the end of such a paper as this go into the details of ordinary treatment, nor is it necessary when addressing an audience of practitioners. I will merely refer to a few points upon which an expression of opinion may be useful.

Of the causes of granular kidney we really know nothing. Many conditions to which it has been attributed—e.g., gout, lead, syphilis, and alcohol—though they may be contributory or aggravating, are certainly not prime causes. The disease is of such long duration and its commencement may be traced so far back in life that its beginnings elude our study. It is a very common disease now, but whether this means that it is increasing in frequency or only that it is more often diagnosed cannot be determined. One is tempted to believe that it is really on the increase, and to connect it with the strain and stress of modern life, for it is often met with in persons with a perfectly clean bill of health who have simply lived strenuous and anxious lives.

Granular kidney *in the early stage*, though capable of certain diagnosis, leads to no symptoms. The general health seems so good as to justify the patients in disbelieving the diagnosis and disregarding to their own detriment the advice based on it. At this stage treatment is precautionary and directed to obviate the risks to which the disease leads, of which the chief are cardiac failure, rupture of vessels, and nephritis; therefore, physical strain, exposure, and habits of excess, especially in diet and drink, should be avoided. The life led should be of studied moderation in all things, of such a sort as would tend to keep the physical health at the highest level.

The risk at this stage is that the albuminuria which has been discovered should lead to its drastic treatment. The amount of albumin lost daily is too small to have of itself any effect upon the general health. Treatment has little or no effect in materially reducing its amount, still less in causing its disappearance, and drastic treatment by diet will injure the general health. Treat if need be, but do not over-treat.

There is another risk by no means negligible—viz., that of alarming the patient so much as to convert him into a renal hypochondriac whereby there is added to the renal disease, which is bad enough in itself, a neurotic condition of no slight gravity. To dwell too much upon the gravity of the case in the early stages to the patient is therefore undesirable, and, considering the long lease of life these early cases have, not warranted by facts.

When symptoms arise they must be treated on general principles, bearing in mind especially the nature of the disease which underlies them. Thus if cardiac symptoms develop over-stimulation must be avoided because of the increased blood pressure this would cause. For this reason digitalis is of doubtful value, and caffeine is a better remedy.

Vascular tension ought to be somewhat raised in granular kidney, and cannot be reduced much without detriment unless it be excessive. On the other hand, if the tension be low it must be raised, for with a low tension the patient is not so well, and will not be better until the tension has risen again. It is the tension that determines the use of digitalis. If the tension be raised it will do harm, but if low, and especially if associated with cardiac failure, digitalis is the best drug for the purpose. So soon, however, as the desired effect has been produced it should be suspended.

Hæmorrhage may not be serious except when it affects the brain. Fortunately, cerebral hæmorrhage rarely develops without some warning, and if the warning be taken may be avoided. These warnings are often given by hæmorrhages elsewhere—e.g., into the conjunctiva or retina.

Epistaxis is common and may actually be useful, in so far as it may stave off a hæmorrhage into the brain. Epistaxis may be the first thing to bring the patient to the medical man. It may produce extreme exhaustion from which the health may never recover, so that the disease appears as if it dated from the epistaxis.

Hæmaturia is not uncommon and may lead to errors of diagnosis and treatment. Thus stone in the bladder may be wrongly diagnosed and operated for, or, if the hæmaturia be associated with cachexia, may raise the suspicion of malignant disease. As a rule, the hæmaturia is small in amount and does not require active treatment.

Generalised rashes are not uncommon in the later stages. They are generally more or less acute, toxic in origin, and of very grave prognosis. Acute general eruptions of any kind, if associated with albuminuria, are always serious, and if occurring in the course of granular kidney generally mark the beginning of the end.

For *sleeplessness* and *nervous restlessness* at night no sedative is better than cannabis indica, which in my experience is the great hypnotic in granular kidney. Opium and its preparations may be given if required without the risks once attributed to them.

Uræmia is often ushered in by headache, great restlessness, foul tongue with gastric and intestinal disturbances. I do not propose to enter into the

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THE ANNUS MEDICUS 1913.

WHILE year by year it becomes increasingly difficult to know exactly what to include or what to exclude in any attempt to summarise the medical events of 12 months, we find that this annual *résumé*, within the limits which we are enforced to impose upon it, is of such genuine service to many of our readers that we are glad to be publishing it as heretofore. The outstanding occurrence of the year has been the International Medical Congress, held in London, and it will be observed that under various headings reference is made in the following columns to the most important pieces of new work and the most striking evidence of scientific progress which marked a thoroughly successful meeting. The chapter which we now add to the abbreviated history of medicine, that has been compiled in these pages and in this form for some 50 years, lacks features which were present in certain of its predecessors, but others have been added in their place, where the general subjects seemed to us to demand the attention. For one great lesson borne in on us when compiling the Annus Medicus is that the highly important things of one year may become mere details in another.

MEDICINE.

Tuberculosis.

The final report of the Departmental Committee on Tuberculosis was published in March of this year, and contains much material for study and reflection. Since the publication of the Interim Report the Government has decided to place at the disposal of the Local Government Boards, and in the case of Wales at the disposal of the Welsh Insurance Commissioners, a sum of money representing approximately half the estimated cost of treating non-insured persons, as well as the dependents of insured persons. The National Insurance Act made no provision for uninsured persons, while the omission of a section of the population from the national scheme for the treatment of tuberculous persons endangered the success of the whole endeavour. This decision of the Government has closed a dangerous gap in our sanitary defences. A second change in the administration of sanatorium benefit was the granting by the Chancellor of the Exchequer of the "tuberculosis sixpence," to be paid as a capitation grant on all insured persons to the general practitioner in return for domiciliary treatment. One of the most interesting features of the report is the formulation by the Committee of a plan for a permanent bureau under the auspices of which a comprehensive scheme of research could be carried on. The Committee were of opinion that some workers of proved and exceptional ability should be enabled to devote their whole time to research work, and should be given a definite and adequate salary and be entitled to a pension.

On Feb. 1st the Notification and Treatment of Tuberculosis Order of Dec. 19th, 1912, came into effect. Every medical practitioner is now required to make a "primary" notification of tuberculosis to the medical officer of health of the sanitary district in which the patient lives, in any case in which he diagnoses tuberculosis. All forms of the disease must be notified, the only specified exception being tuberculosis the evidence of which is derived solely from the tuberculin tests. The compulsory notification of tuberculosis in England and Wales may now be regarded as completely provided for by the new Regulations. It is based on the assumption that its adoption is in the interests of the tuberculous patients themselves, and to the advantage of preventive medicine and national statistics.

The organisation in London of the treatment of tuberculosis is still in an unsatisfactory condition. The Public Health Committee of the London County Council and the Local Government Board are still considering how the "sanatorium treatment" can best be administered, and some time seems likely to elapse before the scheme is in full working order. We have already expressed the opinion that as far as possible the large general and special hospitals should be employed. The advantages they can offer in the way of an experienced staff, beds for observation cases, special departments, and clinical laboratories are far in excess of any provisions that could be made by the local authorities in the shape of new dispensaries, with a limited staff.

At the Fifth Annual Conference of the National Association for the Prevention of Consumption and other forms of Tuberculosis, held in London on August 4th and 5th, some valuable discussions took place. Particular interest attached to the remarks on the use of tuberculin; owing to the long experience which the various speakers had had of the remedy, their opinions are worthy of the greatest attention and respect. With regard to the diagnostic value of tuberculin there was little difference of opinion, the main objection lying in the fact that tuberculous infection is very common, and the test in whatever form it may be used does not help to distinguish between active and arrested or healed disease. Professor SAHLI was still more emphatic, and maintained that the use of tuberculin for diagnostic purposes ought to be condemned; it was unreliable, both positively and negatively. The opinions expressed as to the therapeutic value of tuberculin were guarded, and on the whole were not altogether favourable to the use of the remedy, but there are many observers who would probably support the opinion expressed by Dr. HECTOR MACKENZIE that the only new form of treatment with any good claim to be a specific which has been brought forward during the last quarter of a century is tuberculin, but it must be administered in a careful and scientific manner, for it is a potent agent for evil as well as for good.

At the same conference Sir R. W. PHILIP spoke on the need for coördination of antituberculous measures. He pleaded for a central administration from which the necessary treatment of patients can be recommended—domiciliary, dispensary, hospital or sanatorium. The principal officers of such an organisation must be chosen from those who have had an extensive practical experience of tuberculosis derived from many years of observation.

Typhoid Fever.

The Antityphoid Committee was appointed in 1904 by the Army Council, having as its object "to investigate the practical prophylactic and therapeutical value of current methods of immunisation against enteric fever." The greater part of the experimental work has been published in the *Journal of the Royal Army Medical Corps* and the *Journal of the Royal Institute of Public Health*, and has received notice in the columns of THE LANCET, and in the report the definite conclusions alone were collated, freed from technical detail, while the publication of the report was delayed to await the due accumulation of statistical evidence, which could only be obtained from regiments sent on foreign service. Amongst the conclusions arrived at by the Committee were the following: The development of immunity against the typhoid bacillus, as indicated by quantitative investigation of the various antibodies produced, was exhaustively studied both in man and animals. Vaccines made by a variety of methods were compared, but none were found to possess material advantage over that of Sir A. E. WRIGHT, provided the temperature employed for sterilisation be reduced to 53° C. A large number of methods which had been suggested for the standardisation of vaccines were critically examined, and the enumeration of the number of bacteria in a given volume of vaccine was adopted as the most accurate and convenient. The keeping qualities of the vaccine at various temperatures and under practical conditions, such as a voyage through the tropics, were examined. Vaccines three months old were found to be efficient, but serious deterioration in immunising value was apparent in those which had been kept six months or upwards. The histories, as regards typhoid fever, of 19,314 soldiers, whose average period of service abroad was 20 months, were carefully followed, and every precaution possible was taken to verify the diagnosis bacteriologically. Of this number 10,378 were inoculated and 8936 not inoculated. The case-incidence of typhoid fever among the inoculated was 5·39 per 1000, and among the non-inoculated 30·4 per 1000. Finally, the committee unanimously recommended that every measure which might be considered practicable should be employed to extend the practice of antityphoid inoculation in the army. In the opinion of the committee its universal application is desirable. They added that research work on preventive inoculation against typhoid fever, a subject of special importance to the army, should be continued.

At a meeting of the Académie de Médecine of Paris Dr. H. VINC [illegible] markable results from [illegible] Dr. ALDO CASTELLANI, [illegible] Clinic for Tropical Diseases, Colombo, Ceylon, read a paper entitled, "Typhoid and Paratyphoid Vaccination with Live Attenuated Vaccines" at a meeting of the Society of Tropical Medicine held on Dec. 22nd, 1912, the communication being published in the early part of this year. As a result of his investigations he maintained that the use of live attenuated vaccines prepared according to his methods is attended with no harm, and that such vaccine in the lower animals, and probably in man also, gives rise to a higher degree of immunisation than is obtainable with dead vaccines.

Tetanus.

The number of cases of tetanus of any severity that recover is small. The case recorded by Dr. OLIVER ATKEY in our columns of a boy, aged 19, who suffered from a severe attack of the disease and recovered is therefore of interest. He was treated by intravenous injections of paraldehyde and copious injections of normal saline solution. The special advantages of this method of treatment appear to be: 1. The anæsthesia is induced with extreme rapidity. Within a few seconds from the introduction of the needle the muscles become relaxed, and no further pain is experienced. 2. The drug not only acts as an anæsthetic, but also as a hypnotic, and after the period of definite hypnosis has elapsed there still remains a period of relative muscular relaxation lasting several hours. The pain caused by the introduction of the needle is so momentary that it need hardly be reckoned with. A muscular spasm is of necessity caused, but it is almost at once relieved by the relaxing effect of the paraldehyde. On two occasions, however, owing to failure to introduce the needle easily, chloroform was resorted to to enable the needle to be introduced.

Poliomyelitis.

Dr. JAMES MCINTOSH and Dr. HUBERT TURNBULL published an interesting article giving an account of their investigations in reference to the transmission to monkeys of virus obtained from English cases of poliomyelitis.

Dr. SIMON FLEXNER'S brilliant researches on poliomyelitis have been carried an important step further. The subject is dealt with in detail in the Section of Neurology.

Rabies.

At a demonstration given at the Royal Society of Medicineon Oct. 20th, Dr. HIDEYO NOGUCHI showed various stages in the virus of rabies. He said that he was uncertain whether the changes observed represented sporulation, or segmentation, or degeneration. He referred to NEGRI'S observations and showed lantern slides indicating the form of parasites described by that observer. These bodies had been observed in the brains of dogs suffering from rabies; in rabbits these bodies had not been demonstrated, but he (Dr. NOGUCHI) had observed numerous granules. He then referred to the "sporulation" forms found in cultures of the virus of rabies, and by means of lantern slides illustrated the increase in size which these forms underwent in artificial culture media, until finally these bodies broke up into a large number of "granules" similar in appearance to those he had previously described.

Plague.

In discussing the case of a boy, an apprentice on a grain ship that arrived in the Tyne from Rosario (River Plate), who died from plague, Dr. W. J. TULLOCH drew attention to the many difficulties which exist in recognising cases of plague which may arrive on our shores on healthy ships from foreign ports not known to be infected. He urged the examination by blood culture as a method to be adopted in all doubtful cases, and if used as a routine procedure in the indefinite febrile illnesses which occur on board ships it would, he contended, be found a valuable aid to diagnosis. In the case described by Dr. TULLOCH the strain of the plague infection was peculiar, since two other cases of illness had previously occurred on the same vessel refer to Dr. RUSSELL S. FOWLER's account of the use of the position which is called by his name and employed for the treatment of peritonitis, and the paper by Dr. CHARLES GOODMAN on Arteriovenous Anastomosis for impending gangrene. The results so far obtained appear to show that the method can prevent gangrene if the operation is not left too late.

Appendicitis.

Mr. EDMUND OWEN started a correspondence on the time to operate in appendicitis by the publication of a paper which he had read at the Medical Society of London. The paper was entitled "Appendicitis, a Plea for Immediate Operation," and put forward with great eloquence that there should be no delay in operating on a patient in whom appendicitis has been diagnosed. Mr. OWEN advanced reasons for this immediate action; he showed that the surgeon can never tell the exact condition of the appendix, that it may indeed be a mild inflammation of the appendix from which the patient may recover with a few days' or weeks' rest in bed; but it may, on the other hand, be a case where the appendix is ready to burst and to flood the peritoneal cavity with very septic pus, and nothing in the signs or symptoms can enable the surgeon to distinguish with certainty the one from the other. He claimed that immediate operation would save many lives that would be otherwise lost; that the policy of procrastination must lead to many deaths which could have been avoided; while in those cases where mere rest would have led to an arrest of the inflammation the patient had been saved once and for all the risks and dangers of further attacks of the disease. In politics the motto "Wait and see" might suffice; for the surgeon in a case which has been diagnosed as appendicitis the motto should be "Look and see." It is not surprising that an address expressing sentiments such as these should evoke a number of replies. At the meeting of the Medical Society indeed there was unanimity, but that was merely because opponents were absent.

In the subsequent discussion in THE LANCET there was among some of those who wrote a tendency to advocate a waiting policy in all cases which had passed the second day, as the statistics appear to show that operation from this day to about the sixth or seventh day is accompanied by a large mortality. The discussion was of great interest, and though it may be said that not one of the controversialists was convinced by the arguments of his opponents, yet it is certain that the number of those who advocate a waiting policy is steadily diminishing. More and more every year those who have previously adopted the watching method of treating cases of acute appendicitis which have passed the first two or three days are becoming advocates of the immediate operation.

Traumatic Appendicitis.

Cases of appendicitis attributed to injury are rare, though some 100 such have been recorded. The relative frequency has been variously estimated from 0·8 per cent. to 8 per cent., and this difference is probably due to the difficulty of estimating the relation of cause and effect. Only one writer, SPRENGEL, has denied that trauma can ever be a cause. A striking case has been reported by Mr. J. DANIEL. A woman, aged 18 years, was kicked in the right iliac fossa by her husband, and the pain, though severe, passed off. A week later she felt acute abdominal pain, especially in the right iliac fossa, and she was compelled to stay in bed; vomiting and constipation were present. She continued in this state with remissions for more than three weeks, and then was admitted to hospital, when her temperature was 103·5°; there was resistance over the right iliac fossa, and appendicitis was diagnosed. The temperature fell to normal with medical treatment, and 12 days later an "interval operation" was performed. The appendix had many adhesions, but it contained no stercolith. The medico-legal importance of traumatic appendicitis can hardly be over-estimated, for claims may depend upon the view taken as to the origin of the inflammation.

The Black (Pigmented) Appendix.

Mr. W. H. BATTLE has drawn attention to the pigmented form of the appendix, and he has described four cases of the condition. In all of these the pigment was situated in the mucous membrane and the colour was clearly due to iron. The condition has been noticed by several German surgeons, and they also have found iron to be present. Some years ago Dr. G. NEWTON PITT described a case of pigmented bowel in which the pigment was lead sulphide; the patient had been a worker in lead.

Bastedo's Sign of Chronic Appendicitis.

Dr. ARTHUR F. HERTZ has drawn attention to the sign of chronic appendicitis, which was first described by BASTEDO in 1909. The large intestine is slowly inflated with air, by means of a rectal tube and a small pump such as is used in sigmoidoscopy. Then if chronic appendicitis is present pain is felt in the right iliac fossa, and often there is tenderness over McBurney's spot. The test appears to be of some value in chronic ill-defined cases, for when it gives a positive result chronic appendicitis appears always to be present, but a negative result does not appear to be so conclusive.

Wounds of the Abdomen.

Dr. JOHN A. C. MACEWEN has reported a case in which a boy, 10 years old, fell on a spike; he was able to walk home, but four hours later he was removed to the hospital. He was found to have a small punctured wound in the epigastrium, with a little local tenderness, but there was no shock. Soon he vomited, but the vomit contained no blood. A probe entered only a short distance. The right side of the abdomen, however, remained rigid and tender, so an anæsthetic was administered, and it was found with a finger that the wound led into the abdominal cavity. When the abdomen was opened it was seen that the stomach was perforated, both on its anterior and its posterior walls; there was also a wound of the mesocolon, with about a pint of blood in the peritoneal cavity. The perforations were closed and the patient recovered completely.

Rupture of the Spleen.

Major J. W. F. RAIT, I.M.S., has recorded a case of rupture of the spleen, due to a blow received three hours before the patient was admitted into the Calcutta Hospital. There was abdominal dulness and the patient was collapsed. On opening the abdomen much blood escaped, and a rent of the spleen was found near the lower margin; the spleen was removed after ligature of its vessels. An intravenous infusion of saline fluid was given and some hot saline was left in the abdominal cavity. In this case the spleen appears to have been quite normal, though rupture of a malarial spleen is common.

Dr. R. SEHEULT has recorded also a case of ruptured spleen. A boy, aged 13 years, fell from a height of 16 feet while climbing a tree. He was seen by a doctor, but he was sent home. As the pain continued he was taken late the next day to the hospital. On admission there was some abdominal pain and the abdomen was slightly distended, and there was some diminution of the liver dulness. The urine was drawn off but no blood was present. As the symptoms were not urgent he was kept quiet, with an icebag on the abdomen. The next morning, however, as the pain continued and there was dulness in the flanks, Dr. SEHEULT determined to operate. When the abdomen was opened much dark-coloured blood escaped. The whole of the bowel was examined, but no injury was found; the liver was also found to be intact, but the spleen was seen to be extensively lacerated. The pedicle was clamped and tied. In this case the most remarkable point was the long interval of nearly 48 hours between the infliction of the injury and the removal of the spleen. It is probable that the hæmorrhage was not severe at any moment, or the patient could not have survived.

Mr. WILLMOTT EVANS has reported a case of rupture of the spleen which was complicated with rupture of the liver. A boy, aged 15 years, was run over by a cart, one wheel passing over the abdomen. He was pale but not blanched, and he complained of abdominal pain. He vomited two or three times, and the first vomit contained a little blood. A catheter was passed into the bladder and clear urine was drawn off. There was some dulness in the flanks. A diagnosis of rupture of the spleen was made. When the abdomen was opened near the outer border of the left rectus about two pints of blood escaped and the spleen was found much torn; its vessels were sutured and the spleen was removed. The surface of the liver was then examined with the hand and two tears in it were felt. The wound on the left side of the abdomen was closed and an incision was made on the right side parallel to the margin of the ribs. It was then found that there were three tears in the liver. As the patient was very collapsed the wounds in the liver were packed with aseptic gauze. Three days later the gauze packing was removed and the patient recovered completely and rapidly. The noteworthy point about this case is the successful result after rupture of both spleen and liver.

The Cause of Death in Acute Intestinal Obstruction.

Mr. D. P. D. WILKIE has recorded a number of experiments which he has made on the cause of death after acute obstruction of the bowel. He showed that when the obstruction was high in the bowel the free loss of fluid by vomiting accounted in great part for the symptoms. When the intestine was strangulated his researches indicated that the acute symptoms and the early fatal issue were due mainly to shock and splanchnic paresis, and slightly also to the absorption of toxins from the strangulated loop. The practical conclusions drawn were: (1) that the surgery of intestinal obstruction shou [illegible] ible, and that only on [illegible] the lumen of the bo [illegible] r of peritonitis is greater than that of absorption toxæmia; and (2) that in all forms of intestinal obstruction great improvement follows copious subcutaneous infusions of saline and dextrose solutions.

Foreign Bodies in the Œsophagus and Air Passages.

Sir STCLAIR THOMSON has reported a very rare and interesting case in which he removed a toothplate from the œsophagus after two and a half years. The patient was a man, 22 years old, and during the night he swallowed half of a cracked vulcanite toothplate. He felt pain in the throat and a difficulty in swallowing. The pain and difficulty were referred to a particular spot behind the breast bone. As the sympt [illegible] y examined at severa [illegible] re used, but nothing [illegible] given was neurotic dysphagia. When Sir STCLAIR THOMSON saw him the plate had been seen by direct œsophagoscopy by Dr. IRWIN MOORE, and a skiagram showed the plate, but very faintly. Then under chloroform the plate was seized through a Brünings tube and the tube, forceps, and plate were removed together. The case shows well how such a foreign body may be overlooked; it is also remarkable that so irregular a body should have given rise to comparatively little discomfort, although it had been retained for two and a half years. Mr. GEORGE N. BIGGS had a similar case of some interest. A boy swallowed a piece of rabbit bone, and immediately felt pain about an inch below the cricoid cartilage. Attempts to remove it with a probang failed. When he was seen the next day an œsophagoscope was passed and a swelling was seen on the posterior wall of the œsophagus, and the piece of bone was seen protruding from a small opening from which about a drachm of pus exuded. The bone was removed with forceps and proved to be about an inch long and pointed at both ends. He was fed by enemata for four days, but on the seventh day he had dysphagia and dyspnœa and his temperature was 105°. A swelling was felt externally, and pressure on this made the boy cough up about an ounce of very foul pus. Immediately all the symptoms were relieved, and the boy soon recovered. It is possible that in this case the probang had pushed the piece of bone through the œsophageal wall.

Dr. WILLIAM MILLIGAN gave an interesting post-graduate lecture on œsophagoscopy and bronchoscopy for foreign bodies, and he related a number of cases which showed the value of the method. Similar cases were also recorded of the removal of foreign bodies from the air passages. Mr. W. G. HOWARTH contributed to THE LANCET a paper on the removal of foreign bodies from the larynx and bronchi. In one case a baby, 9 months old, was found to be gasping for breath and an X ray photograph showed a foreign body in the subglottic space. It was readily extracted with a pair of Brünings's forceps, and it proved to be the mouth of a tin trumpet. In another case a man had worn a tracheotomy tube for laryngeal stenosis; a part of the tube was missing, and he mentioned that he had had a cough for some days. A skiagram showed the foreign body in the right main bronchus, whence it was extracted with forceps. In two other cases it was known that a foreign body had passed into the air passages; in one of these the object was a pin, and in the other a hairpin; and in each case the body was lodged in a bronchus. The removal of foreign bodies from the œsophagus and the air passages has become a much simpler matter than even a few years ago, for by Killian's or Brünings's tube they may usually be readily removed.

Mr. THOMAS H. KELLOCK has reported a case in which he removed a foreign body from the lung. The patient was a boy, 4½ years old, and four days before admission to the hospital he swallowed a shawl pin about 2 inches long. He seemed to be in good health and no abnormal signs were present. A skiagram showed the pin in the right bronchus, though subsequently it slipped down lower. Attempts to remove it through a bronchoscope failed both when the tube was passed through the mouth and when it was passed through a tracheotomy wound. Then when the tracheotomy wound had closed Mr. Kellock made an opening through the chest-wall on the right side, forming a window about 3 inches square. The finger could feel the diaphragmatic surface of the right lung, a hard spot was felt there, and a small incision was made over it, and with a litttle trouble the pin was felt and extracted with forceps. The child recovered, though for the first few days it was a little restless.

Fracture of the Neck of the Femur.

Dr. Royal Whitman has contributed a paper on the method devised by him of treating fracture of the neck of the femur by placing the limb in the position of abduction. He points out that in this fracture the outer fragment is turned forwards and displaced upward, and the adjusting the outer fragment to the inner is accomplished as follows:—The patient is anæsthetised and placed on a sacral support, and then an assistant abducts the sound limb to the anatomical limit so as to demonstrate the normal range, which varies in different persons, and this also serves to fix the pelvis. Then the thigh on the affected side is flexed to disengage the fragments. The hip is then extended and longitudinal traction is made to overcome the shortening. The limb is rotated somewhat inwards and is abducted to the normal limit, as shown by the thigh of the other side. In this position the fractured bone is fixed by a plaster spica, extending down the limb as far as the ankle. The method is ingenious, and it has probably not been employed to the extent which it deserves, though most of the objections brought against it have been theoretical rather than practical.

Hyperextension and "Back-fire" Injuries of the Wrist.

Mr. Cuthbert S. Wallace has contributed a paper on the injuries in the neighbourhood of the wrist which result from forcible over-extension of the hand. The lesions produced vary greatly in different cases. In one case there was dislocation of the semilunar, fracture of the neck of the scaphoid, and a vertical fracture of the lower end of the radius, taking off its styloid process. The semilunar bone and the loose piece of the proximal end of the scaphoid were removed. In a second case the whole of the second row of carpal bones was dislocated backwards on to the back of the first row, and in addition the semilunar was dislocated. In a third case the semilunar and pyramidal bones were displaced forwards and upwards. He discussed the mechanism of the production of these fractures, and showed how the angle of flexion affected the result. The injuries of "backfire" were exemplified by two cases; in one the radius was fractured three inches above its lower end, and the upper end of the lower fragment was displaced forwards. In the other case the fracture was of the lower end of the radius; starting about three-quarters of an inch above the tip of the styloid process, it passed inwards and downwards to enter the wrist-joint just external to the radio-ulnar articulation. This latter is the lesion which has been called chauffeur's fracture. There was no displacement.

OBSTETRICS AND GYNÆCOLOGY.

The Ductless Glands and Pelvic Organs.

The ductless glands and their relation to the functions of the pelvic organs have excited a good deal of attention during the past year, and formed the subject of the Arris and Gale lectures at the Royal College of Surgeons given by Dr. W. Blair Bell, and also of a discussion at the Section of Obstetrics and Gynæcology of the Royal Society of Medicine introduced by him. The curious part played by the pituitary gland in the production of the so-called "dystrophia adiposo-genitalis," the occurrence of sexual precocity, premature adolescence, and early setting of the body in association with hypertrophy of the cortex of the suprarenal, and the arrest of the body growth accompanying atrophy of the thyroid—all these demonstrate how important a part in metabolism is played by these secretions, and what an intimate relationship they bear to the many problems associated with sexual characteristics and sexual development. Dr. Blair Bell's lectures form a useful summary of our knowledge, which as regards actual facts is very small indeed. Unfortunately, at the present time there is a widespread tendency to attribute all kinds of varying errors of metabolism to disturbances of one or other of the ductless glands when practically nothing is known with any certainty. It is of the utmost importance if our knowledge of this subject is not to be confused by unwarrantable hypotheses that we should accumulate a much larger number of definite and proven facts, and refrain from crude generalisations, however fascinating and apparently illuminating they may be. The investigations required to detect changes in the general metabolism of the body as the result of disease or artificial removal of one or more of the ductless glands are of the highest complexity, and must be carried out in very large series of cases carefully controlled before any definite conclusions can be drawn from them.

Dr. Blair Bell holds that any influence the ovary has over the general metabolism is related to, and dependent upon, its primary reproductive functions. He believes that the thyroid, the pituitary, and the adrenals influence the development and preserve the activity and integrity of the genitalia, while the thymus, and possibly the pineal, appear to prevent sexual precocity. He further maintains that all the ductless glands control the metabolism in response to the necessities of the genital functions. When, however, the reproductive glands are removed or atrophy the primary genital functions of the rest of the ductless glands cease, and the rearrangement of the metabolism that follows produces the symptoms which are known as those of the menopause. On the other hand, insufficiency of the thyroid, of the adrenals or of the pituitary body causes the cessation of the genital functions with atrophy of the uterus. That there is some definite relationship between the ductless glands is, indeed, accepted by most workers, but what exactly these relations are is very debateable ground. There may be much truth in the deductions drawn by Dr. Blair Bell, who finds fault with Biedl's well-known work on this subject, because nowhere in it is there any attempt to link up the connexions that exist between the ductless glands in regard to the specialised functions. In refraining from doing so, in our opinion, this distinguished writer is right; what we want is not hypotheses and speculation founded on our present imperfect knowledge, but a further laborious accumulation of facts and a very considerable increase in our understanding of this extremely complex and difficult problem.

Serum Diagnosis of Pregnancy.

The principle upon which Abderhalden's test is founded is the reaction of the blood to foreign substances introduced from without. The proteins contained in placental tissue thus produce a specific ferment and this can be detected in the blood serum of pregnant women from the seventh week of pregnancy up to 15 days after delivery. The test depends, of course, upon the presence of chorionic villi in the blood and tissues of the patient causing the production of a special ferment capable of bringing about their disintegration. The test is exciting at the present time a great deal of interest, and there seems no doubt that by its means it is possible to distinguish between the healthy pregnant and the healthy non-pregnant woman. It is true that the results so far obtained are far from uniform or entirely satisfactory, but this may well be explained by the fact that the method requires very great care in its use and an intimate knowledge of laboratory methods. The more carefully the elaborate technique which the author of this test has now evolved is followed the more certain and free from error are the results obtained, and in the hands of competent workers there seems no doubt that the test is accurate and of fair value. In a paper read by Dr. R. L. **MACKENZIE WALLIS** and Dr. **HERBERT WILLIAMSON** before the Section of Obstetrics and Gynæcology of the Royal Society of Medicine clinical details of 16 cases were given in which the test had been applied for purposes of diagnosis. The deductions drawn were correct in 12, incorrect in two, and still in doubt in the remaining two cases. Although it is hardly likely that this test will ever have much more than a theoretical value in the diagnosis of pregnancy, yet the work upon which it is founded is of the greatest possible importance because it seems to open up a large field of research in other diseases in which ferments are formed, and it also offers a possible method for obtaining further information on the subject of the so-called toxæmias of pregnancy. A similar test has recently been employed in the diagnosis of carcinoma, and in a paper in THE LANCET Mr. R. **ST. LEGER BROCKMAN** describes a series of 25 cases of carcinoma in which a positive result was obtained. Indeed, as he points out, some German observers claim that a differentiation between carcinoma and sarcoma can be made by this method.

The Contraction Ring.

Cases of dystocia from time to time occur in which some part of the uterus is contracted in a ring-like form either below or round a portion of the fœtus. A good deal of confusion has been introduced into the consideration of such cases by the failure of many writers to distinguish between two conditions which are probably of a different character. In an interesting paper read before the Section of Obstetrics and Gynæcology of the Royal Society of Medicine Dr. **CLIFFORD WHITE** distinguishes clearly between the retraction ring or the so-called ring of Bandl and the contraction ring. The latter may appear at any period during labour, it does not vary in position with the progress of the labour, and it is not necessarily associated with obstructed labour. It is, indeed, a local spasm of some of the circular fibres of the uterine muscle at varying level in different cases, and, as a rule, occurs round some part of the child, such as the neck or the knees, or in other cases it forms in front of the head and then may be regarded as an extreme degree of rigidity of the cervix. Dr. **WHITE** records three cases of this interesting condition, and his careful summary of their main features should do much to clear up the confusion which still exists upon the subject. Indeed, in a paper read by Professor R. **JARDINE**, subsequent to the appearance of Dr. **WHITE**'s paper, several cases of obstruction in labour due to the retraction ring are recorded which more probably were really cases of the occurrence of a contraction ring.

Hæmorrhage from the Placental Site.

The treatment of hæmorrhage from the placental site in the late months of pregnancy was an important question discussed at the Seventeenth International Congress of Medicine. The natural tendency for this subject to fall into two divisions (placenta prævia and accidental hæmorrhage) was accentuated by the decision of the reporters to choose one division each. It was perfectly clear, however, that the section was unanimous in dividing cases of hæmorrhage into two groups for purposes of treatment—viz., (1) those for whom the facilities of a hospital were available, and (2) those where these were impossible or refused. Almost every speaker urged this distinction, and many insisted that all cases of hæmorrhage were as clearly cases for treatment in hospitals or nursing homes as any acute surgical condition.

Professor **DÖDERLEIN**, in his discussion of placenta prævia, quoted the statistics of a very large number of cases. These included series treated by the following methods: (1) Artificial dilatation of the cervix by bags; (2) tamponade of the vagina; (3) Braxton Hicks's method of bipolar podalic version; (4) intra-amnial metreurysis; (5) abdominal Cæsarean section; and (6) vaginal Cæsarean section. He favoured operative measures (particularly vaginal Cæsarean section) where facilities were possible, but was still prepared to keep an open mind on the whole question.

Professor **ESSEN-MÖLLER**, who limited himself to the pathology and treatment of accidental hæmorrhage, referred to the recent discovery that, frequently at least, the muscle was the site of the hæmorrhage. He considered that a small group of cases was directly attributable to trauma, but that by far the larger group had an association with albuminuria such as to suggest the presence of some general intoxication. He drew comparisons between eclampsia and accidental hæmorrhage, particularly in regard to the albuminuria and hæmorrhage. For treatment he advocated Cæsarean section (abdominal or vaginal) for serious cases with undilated cervix where the condition made rapid delivery necessary; hysterectomy was only to be done when uterine contractions remained obviously deficient after removal of the child and the placenta. He doubted the efficacy of the Rotunda method of plugging the vagina, and in moderate cases would try the effect of rupture of the membranes.

So far as the discussion related to placenta prævia there appeared more or less a consensus of

Intracapsular Extraction of Cataract, &c.

One subject which has attracted much notice in recent years—intracapsular extraction of cataract—was conspicuous by its absence from the proceedings of the Congress. An able exponent of Colonel SMITH'S method, Dr. GREEN, has died very recently. The impression we have gained of the status of the operation in India is that the severe and almost universal condemnation which it met with at first has had to be modified. It appears to have made a place for itself in a small group of selected cases, but is still generally condemned as a routine method. Whatever may be the case in India, in most other parts of the world ophthalmologists are generally agreed that it is fraught with danger.

During the past year the Ophthalmological Society has held its first meeting under the new *régime* as an annual "congress." The meeting was very successful in spite of its proximity to the International Congress, and will doubtless be still more so in future years.

The newly founded Section of Ophthalmology of the Royal Society of Medicine has also had a most successful session. The amity which reigns between the two societies is agreeably displayed in the presentation of the library of the Ophthalmological Society to the Royal Society of Medicine and the reciprocal facilities which have been given to members of the former society by the latter.

NEUROLOGY.

Syphilis, Parasyphilis, and General Paralysis.

It has become increasingly apparent that the term parasyphilis is misleading and out of date—i.e., in so far as it has been supposed to signify a diseased state, not actually syphilitic, but a sequel to preceding syphilis. The evidence of the year now drawing to a close has shown that patients suffering from general paralysis are actively syphilitic. NOGUCHI and MOORE[1] demonstrated the treponema pallidum by a modification of Levaditi's silver method in 12 out of 70 brains of patients dying with general paralysis. In a second series examined by NOGUCHI,[2] he has found the spirochæta in 36 out of 130 cases. His results have received sufficient confirmation in the course of the last few months, although it appears that with the method of smears with Indian ink and a dark background the spirochæta can be seen more readily than by silver methods. MARIE, LEVADITI, and BAUCHOWSKI[3] have reported the constant presence of *spirochætæ in the brains of general* paralytics dying in seizures. They report that they have recovered the organism still motile from the frontal cortex in general paralysis. MOTT[4] has published his results with various methods of examination—Levaditi method, Indian-ink method, Fontana-Tribondeau silver method, the last of which he thinks is the most satisfactory. He has recovered spirochætæ still moving, though sluggishly, from the cortex of general paralysis no less than four days after death. By the Indian-ink method he has found the organism in 8 out of 11 cases. The spirochætæ are not found in relation to cerebral or cortical blood-vessels, but are free in the tissues, and may have to be searched for with exemplary patience. MARINESCO and MINEA[5] have shown that they may occur in nests, so to speak.

Further, GRAVES[6] has experimented along the lines of inoculation of rabbits' testicles with the blood of cases of general paralysis and tabes dorsalis. Two positive results were obtained. Distinct areas of induration developed, in which typical spirochætæ were found. NOGUCHI[7] has inoculated the testicles of 36 rabbits with fresh emulsion of the brain in general paralysis. In two instances after an interval of about 100 days typical induration of the testicle developed, and in this affected area spirochætæ were discovered, in one case in abundance.

Such experimental work is of the utmost significance. It is now demonstrated that syphilis can be produced in rabbits from the emulsified cortex of general paralysis. Many problems remain, one of the most important being the question of the occurrence of a granular stage of the spirochæta pallida.

A new method of treatment of tabes dorsalis and general paralysis is suggested by a consideration of the way in which the spirochæta is disseminated through the tissues in these diseases. SWIFT,[8] of the Rockefeller Institute, has been treating such cases by preliminary intravenous injection of salvarsan. One hour later the blood of the same patient is taken, centrifuged, the serum diluted with normal saline, and after withdrawal of a corresponding quantity of cerebro-spinal fluid injected into the subdural space by lumbar puncture. He claims to have obtained good results thereby. FISHER[9] has utilised approximately similar methods, and has obtained great improvement, with arrest of symptoms, in seven cases of advanced general paralysis.

Progressive Lenticular Degeneration and Pseudo-sclerosis.

Great interest has been taken, especially in Germany, in the disease described by KINNIER WILSON as "progressive lenticular degeneration," a disease in which bilateral lesions of the corpus striatum, in particular the lenticular nucleus, are associated with cirrhosis of the liver. During the year since the publication of his monograph cases have been recorded by CASSIRER,[10] SAWYER,[11] STÖCKER,[12] YOKOYAMA and FISCHER,[13] and SCHUTTE.[14] In these cases the symptomatology has been identical with, or very similar to, that already described as characteristic of bilateral disease of the corpus striatum—viz., involuntary movements, usually tremors, spasticity of the limbs, leading to contractures, helplessness without actual paralysis, involuntary laughing, with no signs of involvement of the pyramidal tracts. Recently, also, fresh cases of so-called pseudo-sclerosis of a special type have been reported by WESTPHAL,[15] HOESSLIN and ALZHEIMER,[16] and RUMPEL.[17] These have been cases in which cirrhosis of the liver has been found at cropsy, and in which the clinical symptoms have en somewhat analogous to those referred to ove, but gross changes in the corpus striatum ve not been discovered. The whole subject gave se to a fruitful discussion at the recent Jahresver- mmlung[18] der Gesellschaft Deutscher Nerven- zte in Breslau. It is clear that in Wilson's type d in this variety of so-called pseudo-sclerosis we e dealing with a condition the investigation of hich has thrown much needed light on the question the functions of the corpus striatum, as well as *the familiar disease paralysis agitans.*

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[1] Journal of Experimental Medicine, vol. xvii., No. 2, 1913.

[2] Journal of the American Medical Association, 1913, vol. lxi., July 12th, p. 85.

[3] Comptes Rendus de la Société de Biologie, vol. lxxiv., No. 17, 1913.

[4] THE LANCET, Nov. 15th, 1913, p. 1367.

[5] Comptes Rendus de la Société de Biologie, vol. lxxiv. No. 16, 1913.

[6] Weekly Bulletin, St. Louis, June 15th, 1913.

[7] Journal of the American Medical Association, 1913, vol. lxi, July 12th, p. 85.

[8] International Medical Congress, Neurological Section, *London*, 1913. Swift and Ellis. Journal of Experimental Medicine, 1913, vol. xviii., p. 435.

[9] Quoted by Mott, loc. cit.

[10] Neurologisches Centralblatt, Oct. 16th, 1913, p. 1284.

[11] Brain, 1913, vol. xxxv., p. 222.

[12] Zeitschrift für die Ges. Neurologie und Psychologie, 1913, Band xv., p. 251.

[13] [illegible] Band ccxi., Heft 2, p. 305.

[14] [illegible] 1913, Band ii., p. 334.

[15] [illegible] ii., Heft 1.

[16] Zeitschrift für die Ges. Neurologie und Psychologie, 1912, p. 183.

[17] Deutsche Zeitschrift für Nervenheilkunde, Band xlix., 1913, Heft 1-2, p. 54.

The Sensory System.

TROTTER and **DAVIES**,[19] of University College ospital, have published an important communi- tion embodying researches that have extended er six years. By experimentation on themselves ey have re-examined the evidence adduced by **EAD** some years ago to show that the peripheral nsory system (cutaneous part) was divisible ysiologically into protopathic and epicritic stems, a view which had much to commend it d which has been to a large extent accepted. **ROTTER** and **DAVIES** cannot confirm the criteria of stinction between the two systems which **HEAD** scribed, and they believe that the phenomena of generating sensibility are capable of a simpler terpretation than that given by the latter server.

Poliomyelitis.

A few minor epidemics of this disease have been ported in England this year by **ROTH**[20] and by **JUBB**.[21] **CINTOSH** and **TURNBULL**[22] have successfully oculated monkeys with emulsions of spinal cord tained from four cases of poliomyelitis occurring the London Hospital district. They have found difficult to transmit the virus from sporadic ses; in epidemics transmission is successful in e great majority of cases. They suggest that idemics take place only when the potency of the rus has become aggravated from circumstances as yet unknown. **FLEXNER** and **NOGUCHI**[23] have parently been successful in distinguishing and ltivating the virus of the disease. They have olated from the central nervous system of polio- yelitic patients and of infected monkeys a minute icro-organism consisting of globoid bodies whose mensions vary from 0·15 μ to 0·3 μ in diameter, ranged in pairs, chains, or masses. They grow in man ascitic fluid and can pass Berkefeld filters. rther, these organisms are capable of repro- cing the disease in monkeys, and from these, ain, it can be recovered in pure culture. The ganism is anaerobic.

Pellagra.

Pellagra in a more or less classical form has ade its appearance in Great Britain during the st year, although the probability is that previous ses of the affection have to a large extent escaped cognition. It is most likely to be detected by the in lesions, or to come first to the notice of the rmatologist. **SAMBON**[24] has drawn attention to the currence of the disease, and cases have been ported by **BOX**,[25] **BLANDY**,[26] **JOHNSTON**,[27] **REID** and **CALWELL**,[28] **HAMMOND**,[29] **COLE**,[30] and others. **MOTT**[31] has reported on the pathology of one of the English cases. A number of the published cases have occurred in asylums. They have been characterised by a symmetrical dermatitis of the backs of the hands and forearms, sometimes spreading round to the radial side of the palmar aspect, but respecting as a rule the terminal phalanges, similar dermatitis on either side of the neck and on the face, stomatitis, gastro-intestinal symptoms, and the usual, though varying, nervous symptoms of paræsthesiæ, pains, weakness of the extremities, ataxic paraplegia, and a spastic-ataxic gait. It is important that the practitioner should be on the alert in this matter; the disease shows well-recognised seasonal variations, and it may be expected that next spring more cases will be forthcoming. At present the evidence is strongly against the hypothesis that corn products alone are the causative agents of the disease (**SILER** and **GARRISON**).[32] The view of **SAMBON** that the disease is associated with the presence of the simulium fly has been combated by **ROBERTS**.[33]

Ductless Glands.

This subject continues to attract an immense amount of clinical, pathological, and experimental investigation, to which only the scantiest reference is here possible, while it also receives attention in another column in relation to the pelvic organs.

SWEET and **ALLEN**[34] have performed complete hypophysectomy on 22 adult dogs. On necropsy the following changes were constantly found: (1) a striking red colouration of the pancreas, without much microscopical alteration; (2) testicular atrophy; (3) increase of body weight and obesity. They believe the entire hypophysis can be removed without danger to life. **WEED**, **CUSHING**, and **JACOBSON**[35] have shown that in cats, rabbits, and dogs the posterior lobe of the pituitary body plays a significant rôle in the metabolism of carbohydrates, and its action in this respect is under the control of fibres coming from the superior cervical sympathetic ganglion. **DANA** and **BERKELEY**[36] have published an extremely interesting paper on Pineal Feeding Experiments in Young Animals and in Children. Extracts of the pineal gland of young bullocks were utilised. Their use was followed in animals by increase of body growth and of metabolic activity. "Fifty cases of backward children, under the age of eight or nine years, when fed on pineal extracts, gave results which astonished and pleased their school teachers." **DEGENER**[37] removed the thyroid glands *in toto* from 12 adult rabbits, and found that the hypophyses were always heavier than in control animals. After some six months had elapsed between the date of experimentation and the death of the animal, the pituitary was found to have increased to about three times its normal size. **CLAUDE**, **BAUDOUIN**, and **PORAK**[38] failed to obtain glycosuria after injection of posterior pituitary lobe extract in 12 young subjects who were definitely phthisical. Similarly, they could not produce it in rabbits after experimental tuberculisation.

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[18] Neurologisches Centralblatt, Oct. 16th, 1913, p. 1303.

[19] Journal für Psychologie und Neurologie, 1913, Band xx.; Ergänz- gsheft 2.

[illegible]

Brit [illegible] 237), [illegible]

[25] Ibid, July 2nd, 1913, p. 2.

[26] THE LANCET, Sept 6th, 1913, p. 713.

[27] THE LANCET, Oct 18th, 1913, p. 1114.

[illegible]

[32] American J[illegible] vol. cxlvi., No 2.

[33] Ibid, August, 1913, vol cxlvi., No. 2.

[34] Annals of Surgery, April, 1913, p 485

[35] Bulletin, Johns Hopkins Hospital, February, 1913, p 40.

[36] Medical Record, May 10th, 1913, p. 835

[37] Quarterly Journal of Experimental Physiology, 1913, p 111.

[38] Comptes Rendus de la Société de Biologie, vol. lxxiv., No 10 March 14th, 1913, p 529.

ELECTROTHERAPEUTICS AND RADIOLOGY.

A very significant feature in the field of modern electrotherapeutics is the gradual supersession of the time-honoured galvanism and faradism by the discharges from condensers for treatment as well as for diagnosis. Condenser discharges have practically revolutionised electro-diagnosis; instead of the rather crude results formerly obtained, it is now possible to differentiate many degrees of muscle degeneration, and the progress of a case can be determined with an accuracy that is all but complete. It would be difficult to over-estimate the importance of this development, especially in these days of increasing malingering. So also in the treatment of neuron and muscle lesions. The tendency at the present time is to use strong currents and long applications, but with the ordinary induction coil currents there is a certain amount of movement of ions that gives rise to discomfort and pain. With condenser discharges the impulses are so short that little sensory effect follows. The same may be used in the treatment of obesity with the result that we get a maximum of muscular contraction with a minimum of sensory effect. This method of dealing with corpulence was introduced by **BERGONIÉ** and seems to be both safe and efficient.

High-frequency currents are gradually finding a place in the reduction of hypertension, and a series of applications seems to establish some degree of permanence. The value of the low-tension variety known as diathermy is still under consideration and investigation. It possesses the unique property of heating the tissues through which it passes, even to the extent of coagulation if desired, and a wide field of usefulness is probable as its action becomes better understood.

Radiology in Diagnosis.

The science of radiology continues to make rapid progress. As regards diagnosis, what with increasing skill, greater experience, and better appliances, accuracy of a very high order is being attained in many directions. In the detection of incipient phthisis it holds a very strong position. A clinical diagnosis is frequently anticipated, and when used for corroboration it shows an extent of invasion beyond that detected by clinical methods. In the diagnosis of urinary stone almost complete accuracy is attained; gall-stones are relatively transparent to the X rays, but their detection by this method is becoming more frequent. The investigation of diseases of the digestive system by the X rays has advanced so rapidly during the last year or two that it has been difficult to keep pace with it. An enormous amount of the most valuable information regarding the whole digestive tract has been gained by this method, and it is being added to every day. Nowadays no investigation of the digestive organs is complete without watching the progress of a meal that has been charged with bismuth of barium to make it opaque, and the skill that has been attained in the interpretation of these shadows is highly creditable to those who have done so much to advance this line of investigation. The study of renal disease is also much helped by the injection of an inert opaque solution of collargol into the pelvis of the kidney, which is then examined by the X rays. Certain conditions of the pelvis of the kidney, for instance, are shown up with great clearness, and as the catheter is purposely made opaque to the rays, the course of the ureter is accurately shown.

Nothing new in the way of apparatus, beyond improvement in details, has been brought forward. At present the greatest need is for a tube or other device, capable of furnishing the large volume of radiation required to meet modern demands, and to be capable of doing this steadily for comparatively long periods of time. In the light of present-day requirements the X ray tube itself is the weak member of the radiologic outfit; it is just possible we have about reached the limit of its development along existing lines, and the X ray generator of the future may be something quite different to our present ideas.

Therapeutic Use of X Rays.

The use of the X rays for therapeutic purposes has made steady progress, one of the most important recent developments being the treatment of uterine fibroma. Though the facts may not completely justify the enthusiasm of those who so strongly advocate this method, yet the results that have been obtained, especially on the continent, are sufficiently remarkable to demand our serious attention. The uterus is attacked by large doses of very hard rays, directed from various points on a "cross-fire" principle; the skin does not suffer, and the relief of symptoms and reduction in size of the tumour have been very marked. The method is practically certain of a recognised place in the treatment of this disorder. Another recent application of the X rays is that of the reduction of hypertension, where this is due to an excessive activity of the suprarenal glands. Definite changes in the structure of these organs are produced by irradiation, and their secretion diminished. Favourable results have been obtained in a good proportion of cases, and the idea seems to be one that is worth following up.

The great value of the X rays in dermatology and superficial conditions generally has received further support during the year.

DERMATOLOGY AND SYPHILOGRAPHY.

Salvarsan.

The most important event during the year was the address given by Professor **EHRLICH** at the International Medical Congress on the Treatment of Syphilis by Salvarsan and Allied Substances. He dealt mainly with the chemical aspect of the subject. He mentioned that some observers had denied that salvarsan had any action on the spirochætæ, but it was certain that if salvarsan and some spirochætæ be mixed together in a test-tube and the mixture injected, then no syphilis would result, because the spirochætæ had been "anchored," or fixed, so that they were more easily attacked by the fluids and tissues of the body. He claimed that with salvarsan there was little toxic effect of the nervous system. In a very few cases there might perhaps be a special idiosyncrasy to salvarsan, but it must be of extreme rarity, and some of the fatal results were certainly due to errors of technique, but at all events the percentage of fatal cases from salvarsan was very small. It was of the greatest importance to abort syphilis in the earliest stage, though even in the later stages very good results might be obtained.

In the discussion which followed the valuable work that has been carried out by the Royal

Army Medical Corps in the use of salvarsan was deservedly praised. The conclusions at which Lieutenant-Colonel T. W. GIBBARD and Major L. W. HARRISON, who contributed the paper, had arrived were that the best results were obtained by the administration of three intravenous injections of 0·6 grm. salvarsan and ten intramuscular injections of mercury spread over nine or ten weeks, and the earlier in the primary stage the treatment was commenced the less the chance of a relapse. In the British army more than 70,000 days of hospital treatment had been saved, leading to a great economy of money. As to the risk of the treatment, they had given over 3000 injections and had had no fatality. Professor A. NEISSER also made a valuable contribution to the debate. He insisted on the importance of trying to "sterilise" the patient in the early stage, for then it can be done most easily, and on the desirability of applying the Wassermann test to the cerebro-spinal fluid as well as to the serum. The communication from Sir MALCOLM MORRIS and Dr. H. MACCORMAC was based on a series of 500 injections; when the treatment had been commenced during the primary stage they had invariably prevented the appearance of secondary symptoms. Many others also spoke, and there was on the whole a great degree of unanimity between the speakers. It was generally agreed that two or three doses of salvarsan were needed, and that they should be followed by a course of mercury.

Royal Commission on Venereal Disease.

The appointment of a Royal Commission on the Prevalence and Effects of Venereal Disease should prove of value in drawing attention to the extent and importance of this scourge and in devising some methods of controlling it. The Commission was appointed mainly as a response to an influential memorial signed by many eminent persons, and the wide terms of the reference show that the Government was fully alive to the importance of the subject. The reference to the Commission was: "To inquire into the prevalence of venereal diseases in the United Kingdom, their effects on the health of the community, and the means by which those effects can be alleviated or prevented, it being understood that no return to the policy or provisions of the Contagious Diseases Acts of 1864, 1866, or 1869 is to be regarded as falling within the scope of the inquiry." The *personnel* of the Commission has met with general approval, though it might have been well to include in it a member of the Royal Army Medical Corps and a naval surgeon. It is to be hoped that the work of the Commission will proceed as rapidly as is possible with a due regard to the thoroughness of its work, that the report may be issued without delay, and that the Government will take action on the report as soon as the legal requirements can be fulfilled.

Vaccine Treatment of Skin Diseases.

A subject of great importance was discussed at one of the meetings of the Dermatological Section of the Congress—namely, the Vaccine Treatment of Diseases of the Skin. As Professor GILCHRIST, of Baltimore, said in his opening paper, the too promiscuous employment of vaccines, especially of the commercial forms, has done much to discredit the use of these remedies. Even in the most skilled hands there are many failures. Vaccines appear to be of the most use in acute and chronic staphylococcic lesions of the skin, and autogenous vaccines are best, but in certain cases stock vaccines have proved useful. In this opinion most of the other speakers agreed. Professor ARTHUR WHITFIELD expressed his appreciation of the value of the opsonic index, not so much as a clinical guide as to the dose of a vaccine or for the time of its administration, but rather as enabling the physician to decide which out of a number of organisms, obtained by culture, was responsible for the lesion present. Very good results could be achieved in acute infections, such as erysipelas. In some conditions, such as acne vulgaris, very large doses were sometimes needed, and he gave from 125 to 250 millions of the micro-bacillus. Other speakers also pointed out that it was only in certain forms of infection of the skin that vaccine therapy could produce good results. It was clear from this discussion that the vaccine treatment of diseases of the skin is still in an unsettled position, although some very definite results have been obtained with a few forms of infection.

Epithelioma of the Skin.—Alopecia.

Another discussion of no little importance was that held on the subject of Epithelioma of the Skin, Innocent and Malignant. It was opened by Dr. J. DARIER, and he was followed by a large number of speakers, and it must be confessed that as a result of the whole discussion it was felt by many that there was much still to be learned as to the true nature of these epithelial growths.

The difficult question of the Nature and Treatment of Alopecia Areata and Allied Conditions also engaged the attention of the Congress. So great an authority as Dr. SABOURAUD declared that alopecia areata was a non-microbic and non-contagious malady, and this view was accepted by the majority of those who took part in the discussion, though Dr. J. H. SEQUEIRA believed that there might be a few which were of a contagious nature, and Professor JADASSOHN was of the same opinion. So the question of the contagiousness of the disease cannot as yet be regarded as settled. The probable explanation of the divergence of views is to be found in the multiplicity of the nature of the cases described under the title of alopecia areata.

Pellagra.—Leprosy.—Finsen Light Treatment.

Of recent years the spread of the disease called pellagra has attracted much attention, for it has invaded countries where it was unknown before; it has invaded the United States of America, and it has now been described also in this country. Though in its later stages it is of the most importance as affecting the nervous system, yet at first it appears mainly an affection of the skin, and it is as a skin disease that it is first likely to be recognised. There can be little doubt that many cases of the disease do exist in this country and that a correct diagnosis is rarely made.

The early diagnosis of leprosy is often by no means easy, and therefore it will be of value to note the method employed by Dr. THOMAS MILLER of Manitoba, in a doubtful case. He was able to show by means of a skiagram that the phalanges of one great toe had been in part destroyed; it was said that the toe had been decreasing in size for the last two years, and this with other symptoms suggested leprosy, but the existence of the destruction of the bones as shown by the X rays made the diagnosis certain. A valuable contribution to the Study of the Finsen Light Treatment in England has been furnished by a report from Dr. J. H. SEQUEIRA on the use of the treatment at the London Hospital from 1900 to the present year; and in this report it is shown that in a very large proportion of the cases a permanent cure of the lupus has been effected, while in others much improvement has occurred. Only in a very few cases has no benefit resulted.

TROPICAL AND EXOTIC DISEASES.

Tropical medicine still continues its triumphal march with the result that 1913 has seen much real progress in our knowledge of the origin, treatment, and prevention of the diseases most frequently met with in the tropics. It is a matter of congratulation that the London School of Tropical Medicine has already obtained nearly three-fourths of the sum of £100,000 required to place its operations on a better and more substantial basis. The great event of the year was the Seventeenth International Congress of Medicine in London, this being the first occasion on which a section has been devoted exclusively to the subject of tropical medicine and hygiene. The success of this section, which had for its president Surgeon-General Sir DAVID BRUCE, must have gratified its organisers. It more than justified its existence, for its meetings were thronged at every sitting by members from all parts of the world, some of whom were among the "giants of tropical medicine"; and these distinguished men, by taking part in the discussions, lent additional weight and dignity to the proceedings. Many valuable and interesting papers were read at the meetings of the Section of Tropical Medicine, but we direct special attention to a series of discussions which were arranged by the officials for particular consideration by the members, the subjects being plague, beri-beri, leishmaniasis, spirochætosis, and sanitary organisation in the tropics.

Discussions at the Seventeenth International Congress of Medicine.

The *discussion on plague* was opened by a paper prepared by Professor S. KITASATO (Japan), who testified to the value of the guinea-pig in the search for plague-infected rat-fleas in human habitations. Major W. GLEN LISTON spoke on the epidemiological features of bubonic and pneumonic plague, and on the immunity of Mus rattus to plague infection. A very interesting demonstration, with the aid of lantern slides, was given by Dr. C. J. MARTIN and Mr. A. W. BACOT, of the Lister Institute, on the mechanism of the transmission of plague infection by rat-fleas. The relationship of the tarbagan to human plague was dealt with by Dr. WU LIEN TEH (G. L. TUCK), director of Plague Preventive Measures in Northern Manchuria (whose paper was published in full in THE LANCET of August 23rd). Among others who took part in the discussion were Dr. R. ROW (Bombay), Dr. F. J. VAN LOGHEM (formerly of Java), Mr. J. CANTLIE (London), Dr. A. AGRAMONTE (Cuba), and Dr. DUNCAN WHYTE (China).

The discussion on beri-beri.—The importance attached to this may be estimated by the number of eminent men who took part in the debate. Dr. C. EIJKMANN (Utrecht), whose name has long been before the scientific world as an investigator of beri-beri, opened the discussion, and was followed by Dr. B. NOCHT of Hamburg. Dr. L. BRADDON (Federated Malay States), who was one of the very first to press the "white rice" theory of the causation of the disease, and Dr. C. FUNK (of the Lister Institute), who described the neuritis-preventing "vitamine" found in the subpericarpal layers of the rice grain, set out their views fully; and those who also spoke included Dr. H. SCHAUMANN (Hamburg), Dr. S. SHIBAYAMA (Tokio), Professor F. RHO (Rome), Dr. T. SHIMAZONO (Tokio), Dr. L. NATTAN-LARRIER (Paris), Dr. MALCOLM WATSON (British Malaya), Dr. J. TSCHUDNOWSKY (Paris), Dr. G. L FINK (Burma), Dr. D. E. ANDERSON (London), Dr. AGRAMONTE, Dr. L. SAMBON (London), Miss MAY YATES (London), Mr. CANTLIE, Dr. E. DE FREITAS CRISSIUMA (Brazil), Dr. L. G. CHACIN-YTRIAGO (Venezuela), Dr. C. NOEL DAVIS (Shanghai), and Sir PATRICK MANSON. The section passed a series of resolutions respecting the etiology and prevention of the disease, embodying the views now generally held as to the danger of white rice as a staple article of diet.

The discussion on leishmaniasis was opened by Professor A. LAVERAN (Paris), who read a paper prepared by himself and Dr. C. NICOLLE (Tunis) on Infantile Kala-azar. Sir WILLIAM B. LEISHMAN set out briefly the state of our present knowledge of the leishmania infection and its various forms. Others who took part in the debate were Dr. ROW, Dr. NATTAN-LARRIER, Dr. CRISSIUMA, Dr. B. GONDER (Frankfort-am-Main), Dr. AYRES KOPKE (Lisbon), Dr. A. SPLENDORE (Brazil), Professor RHO, Dr. ANDERSON, Dr. L. P. PHILLIPS (Cairo), and last but not least, Sir PATRICK MANSON.

The discussion on spirochætosis.—This was opened by Professor S. HATA (Tokio) with a contribution to our knowledge of the cultivation of the spirochæta recurrentis; he was followed by Dr. E. PRIMET (French Equatorial Africa), Dr. ANDREW BALFOUR (formerly of Khartoum), and Dr. S. T. DARLING (Panama Canal Zone). Sir WILLIAM LEISHMAN wound up the debate by discussing the question of granule shedding in spirochætosis, and showed some instructive lantern slides in support of his views.

The discussion on sanitary organisation in the tropics.—This was discussed at a joint meeting of the Section of Tropical Medicine and Hygiene and that of Naval and Military Medicine. The debate was opened by Sir RONALD ROSS, who was followed by Staff-Surgeon Dr. HINTZE (of the German Colonial Medical Service), and among others who took part in this interesting discussion may be mentioned Colonel P. HEHIR, I.M.S., Colonel W. G. KING, I.M.S. (retired), Professor T. v. WASIELEWSKI (Heidelberg), Dr. AGRAMONTE, Dr. C. BLACK (Western Australia), Dr. F. M. SANDWITH (London), Dr. C. F. HARFORD (Leyton), Dr. G. OLPP (German West Africa), Dr. ANDERSON, Dr. ANDREW BALFOUR (London), Dr. KOPKE, Dr. WATSON, Colonel BRUCE SKINNER, R.A.M.C. (London), Major LISTON, I.M.S., and Sir PARDEY LUKIS (Director-General, I.M.S.).

Presentation to Sir Patrick Manson.—At one of the closing meetings of the Section of Tropical Medicine of the Seventeenth International Congress of Medicine Professor BLANCHARD, of Paris, in the name of the International Society of Tropical Medicine, presented, with the accompaniment of a graceful and sympathetic speech, to Sir PATRICK MANSON ("the father of tropical medicine") a handsome medallion designed specially by Professor RICHER, of the Paris School of Fine Arts, having on one side of it a likeness of the recipient. The presentation was made amid the enthusiastic plaudits of the members, but the heartiness of his reception caused Sir PATRICK some emotion, and it was with difficulty that he was able to return his thanks.

The Spread of Disease in Africa by Wild Animals and Insects.

The Secretary of State for the Colonies in August, 1913, appointed a committee to report upon the present knowledge available as to the parts played by wild animals and tsetse flies in Africa in the maintenance and spread of trypanosome infections of man and stock; whether it is feasible to carry out an experiment with regard to game destruction in a localised area; whether it is advisable to attempt the extermination of wild animals locally or generally with a view of checking trypanosome diseases; and whether any other measures should be taken to obtain means for controlling these infections. The medical members of this committee comprise Dr. A. G. BAGSHAWE, Dr. ANDREW BALFOUR, Sir JOHN ROSE BRADFORD, Dr. W. A. CHAPPLE, M.P., Sir WILLIAM LEISHMAN, and Dr. C. J. MARTIN. Professor R. NEWSTEAD and Dr. P. CHALMERS MITCHELL are also members of the committee, of which the Earl of DESART is the chairman. It may be remembered that this subject was also raised in the final report of the Luangwa Sleeping Sickness Commission by Dr. ALLEN KINGHORN and Dr. WARRINGTON YORKE.

Inquiry into the Nature and Frequency of West African Coast Fevers.

The Colonial Office, in view of the conflicting opinions expressed respecting the fevers occurring on the West Coast of Africa, appointed in 1913 a small Commission of experts to study the nature and relative frequency of such fevers, and especially as regards yellow fever and its possible minor manifestations among natives and others in West Africa; and to study the clinical course, pathology, and mode of infection of such fevers and the diseases for which they may be mistaken; the nature of bilious remittent, malignant bilious remittent, "inflammatory," endemial and "acclimatising," and other forms of fever was to be investigated under the direction of this Commission, the members of which are Sir JAMES KINGSTON FOWLER (chairman), Sir RONALD ROSS, Sir WILLIAM LEISHMAN, and Professor W. J. R. SIMPSON.

Special Investigations of Diseases in India.

Special investigations are now in progress in India respecting the etiology, treatment, and prevention of a number of diseases, including kala-azar, plague, cholera, relapsing fever, and dysentery, the cost of which is defrayed, in whole or in part, by the Indian Research Fund Association, which was founded in 1911. In this connexion we may refer to an article published in *Science Progress* by Sir PARDEY LUKIS, which shows how at present the practical application of scientific investigations is now being made use of in India with resulting great improvement in the sanitary circumstances of the Indian people, accompanied by welcome developments in local sanitary administration. The Central Research Institute is located at Kasauli under the charge of Major S. R. CHRISTOPHERS, I.M.S. The Third All-India Sanitary Conference has not been held during 1913, but takes place in January, 1914.

Pellagra.

Pellagra, though not, strictly speaking, a tropical disease, is regarded by most people as an exotic, though lately Dr. L. SAMBON and others have reported some 40 cases in England, Scotland, and Wales, while Dr. F. E. RAINSFORD sent to the columns of THE LANCET the notes of a case occurring in Ireland. The investigations of the Pellagra Commission are being continued, and in this connexion Dr. SAMBON has recently visited the United States of America, where it is estimated some 30,000 persons are at present suffering from the disease. The malady is reported to be prevalent, among other places, at Porto Rico, the Panama Canal Zone, the Philippines, and the Sandwich Islands. The difference of opinion as to whether this disease is due to a specific infection or a toxin, or is due to a deficiency of some essential substance in the diet, has not yet been settled, though researches by Dr. SAMBON and other experts are in progress, as well as investigations by an American Commission. A recent report by Dr. HUGH S. STANNUS shows that pellagra is endemic in Nyasaland.

According to our custom we give a short summary of the reported occurrences of the three exotic diseases, cholera, plague, and yellow fever, as well as of small-pox in various parts of the world during 1913 so far, at least, as the information has been obtainable.

Cholera in India and the Far East.

Cholera was prevalent in various provinces of India, and so far as can be gathered from the limited amount of information available up to date, about 150,000 deaths were registered from the disease during the first nine months of the year. The worst sufferers were Bengal, the United Provinces of Agra and Oudh, the Madras Presidency, the Central Provinces, and the new province of Bihar and Orissa. The disease was continuously present during the year in Calcutta, where about 1200 deaths were recorded up to September. In Bombay City cholera caused about 125 deaths in the same period. The malady appeared during 1913 at the Burmese ports of Rangoon, Bassein, and Moulmein, and at Madras and Negapatam in the Madras Presidency. In Ceylon 30 fatal cases occurred at Colombo; and in the Straits Settlements at Singapore about 200 cases were reported. The disease was reported to have occurred on the west coast of the Malay Peninsula, and about 70 fatal cases were certified in Bangkok, the capital of Siam. Cholera was prevalent in Indo-China, outbreaks being reported in Annam, Cambodge, Cochin China, Laos, and Tonkin. The Dutch East Indies suffered again from cholera in 1913, the islands of Java, Sumatra, Borneo, and Celebes being affected. In the Philippine Islands the malady appeared in August at Manila, causing over 70 deaths up to November. In China cholera was present in Amoy, Swatow, Canton, Hong-Kong, Foochow, Chuan-Chow, and elsewhere. Several prefectures in Japan were invaded by cholera during the year, and cases were notified at the ports of Kobe, Nagasaki, and Yokohama, as well as in the island of Formosa.

Cholera in the Near East.

Cholera was epidemic in Asia Minor and the Hedjaz up to the end of 1912, and in the early part of 1913 a few cases were heard of in these regions, the disease then seeming to disappear altogether. It was not until July that cholera once more broke out in Asia Minor at Smyrna, where up to September about 300 persons had been attacked. The malady also reappeared in August in the Red Sea provinces of Turkey at the port of Hodeidah in Yemen, where some 123 cases were notified up to September, chiefly among the Turkish troops.

Cholera in Europe.

Cholera was acutely epidemic at the end of 1912 in Constantinople and in its vicinity, especially at Tchatalja, where the Turks made their final stand to arrest the advance of the then victorious Bulgarians. In the early part of 1913 news came from Bulgaria and Macedonia that cholera had been introduced by Turkish prisoners, and by the sick and wounded soldiers sent home from the seat of war in Thrace. When [illegible] spring cholera broke o[illegible], the infection extending also to the Bulgarian captors. The condition of the respective camps was extremely insanitary, and we have the authority of the special correspondents of the London papers for the statement that thousands of persons were attacked and that many died; how many will probably never be definitely known. Cholera did not become widely epidemic in the Balkan States until the summer months; up to October 10,937 persons had been attacked in Bulgaria, of whom more than 3500 died; in Servia from July till October nearly 7000 cases were reported, of which about 3000 proved fatal; and in Roumania from August to October 5656 attacks were notified, 2908 of which had a fatal termination. Cholera broke out in Greece at the Piræus among a batch of Bulgarian prisoners, and it was currently reported that the Greek army had also become involved. Cases, too, occurred in Macedonia, particularly in Salonica, whither many refugees had flocked and where many sick and wounded had been sent. Cholera also appeared in Bosnia and Herzegovina during the autumn, and the infection spread to Hungary (630 cases) and Croatia-Slavonia (494 cases), as well as to several towns and districts in Austria, including Vienna, Marienbad, and Prague, but there was no epidemic in the last-named towns. In Russia some cases of cholera from Constantinople occurred at Odessa early in 1913, but the infection did not then spread. During August, however, a number of places in the government of Kherson were invaded by the malady, including the port of Kherson, where 40 cases were notified. Some attacks also occurred in Odessa in September, as well as in several localities situated in the governments of Poltava, Bessarabia, Taurida, Ekaterinoslav, and Kieff. At the close of 1913 the disease seems to be subsiding with the advent of wintry weather, but there is danger that in the coming year a recrudescence of cholera in South-Eastern Europe may occur if sufficient precautions be not taken.

Plague in India.

Up to the end of October, 1913, more than 200,000 ca[illegible] been notified in India, and of these [illegible]00 had terminated fatally. The provinces which had the highest plague mortality during the ten months in question were the United Provinces of Agra and Oudh, with more than 88,000 deaths; the new province of Bihar and Orissa, with over 25,000 fatal cases; the Punjab, with nearly 19,000; and the Presidency of Bombay, with not far short of 19,000. The epidemic of 1913 reached its height in March and April, and to those two months more than 90,000 deaths from plague were referred. There is a great probability that the year 1913, when completed, will show a considerable reduction of the plague mortality in India as compared with 1912, when 306,088 deaths were registered from the disease, and 1911, when no fewer than 846,873 victims were certified to have perished from the malady.

Plague in the Far East.

Plague was epidemic in Indo-China, including Annam, [illegible] China, and Tonkin; also in the Quan-Tcheou-Wan leased territory, where nearly 1500 deaths occurred. It was fatally prevalent also in the Dutch East Indies, especially in the island of Java, where more than 9000 cases were recorded. In Siam there was an outbreak at Bangkok comprising some 60 fatal cases. Plague was widely diffused over China, many cities, districts, and ports being invaded by the infection. At Amoy about 300 deaths were recorded; in Hong-Kong the annual epidemic included 335 fatal cases, and there was an epizootic among rats. Shanghai, too, yielded cases both in man and in the rat; and at Canton in April and May plague caused 270 deaths. Other places attacked were Swatow, Fungshan, Ampo, Kityang, Chao-Chow-fu, and Pakhoi; at this last-named port 2000 persons lost their lives from plague. Chao-Yang was also invaded, and coincidently an unusual mortality was observed among rats and mice. In Japan some cases occurred in the latter part of the year at Yokohama, and there were 140 cases notified in Formosa. In the Philippine Islands the disease continued to crop up in sporadic fashion at Manila during the year, a few infected rats being also discovered. Scattered cases, too, came under notice in the Hawaiian Islands, where also some plague-stricken rodents were found.

Plague in the Near East.

The annual outbreak occurred at the Hedjaz port of Jeddah early in the year, among the victims being the registrar of the British Consulate. At Aden 80 cases and 58 deaths occurred, and the disease was also reported to be present in the Sultanate of Oman. In the Persian Gulf plague appeared at the port of Bushire in April, and the malady was epidemic in the two Persian provinces of Kermanshah and Khorassan from May to September. A few cases occurred at the port of Basra, probably imported from Bushire. In Asia Minor plague cases were reported at the ports of Adalia and Trebizond, and in the Lebanon district.

Plague in Africa.

In Egypt up to the end of November 649 plague cases had been notified, 95 being referred to Alexandria and 25 to Port Said. At the Italian port of Massowah on the Red Sea coast of Erythrea an outbreak occurred in May comprising more than 50 cases. In British East Africa plague was prevalent during the first half of 1913, nearly 260 cases being notified in Mombassa, Nairobi, Kisumu, and other places; many infected rats were also found. In the Muanza district of German East Africa 236 fatal cases of plague were reported, and there was a coincident epizootic among rats. On the island of Mauritius up to the end of November 280 cases of plague had been notified and about 400 infected rodents had been discovered. In Morocco the disease occurred at Mehedia, Casablanca, at Rabat, and El Arish. In Tripolitania plague cases were reported at Tripoli and Derna. In the Canary Islands, at Santa Cruz de Teneriffe some fatal cases were registered during February.

Plague in Europe.

There was very little plague in Europe during 1913. In Russia about 30 cases were notified in the territory of the Don Cossacks; and in the government of Astrachan, in a region said to be an endemic centre of plague, a number of cases mostly of the pneumonic type were reported. During August 10 cases were registered in Greece at the Piraeus, the infection being traced to Egypt. Later the disease appeared in Athens, but did not spread. A single case was landed at the Austrian port of Trieste in November from the s.s. *America*.

Plague in North and South America.

In California, where the ground squirrels are known to be suffering from enzootic plague, two human cases, both fatal, were reported in 1913; and at Seattle, in the State of Washington near the Canadian boundary, nine plague-infected rats were discovered in November. In South America some 400 cases were reported in the State of Ecuador, chiefly at the seaport town of Guayaquil, and later reports state that the disease was spreading into the interior. The information available from Peru is extremely meagre, but it is known that plague was prevalent, especially in the departments of Lambayeque, Lima, and Libertad, and that more than 530 cases had been notified. The reports from Chili are also very scanty, but the disease was known to be prevailing in Iquique and other places. The government officials in the Argentine do not publish news respecting exotic disease, but consular reports show that plague had occurred at Rosario and in its vicinity, as well as at different places in the provinces of Tucuman, Parana, Cordoba, and Entre Rios. In July it was reported that plague was present in Montevideo, the capital of Uruguay. Sporadic cases occurred in Brazil at Rio de Janeiro, some 36 notifications being received up to October. About 20 attacks were certified at Port Allegre. There was also an epidemic of plague at Bahia, about 150 cases being notified; and at Pernambuco about half a dozen fatal instances were certified.

Yellow Fever on the West Coast of Africa.

During 1913 yellow fever appeared in Portuguese West Africa at Kinsembo, and there was a sharp outbreak at Accra, in the Gold Coast, where cases continued to occur from March to October. Among the Europeans attacked at Accra were the wife of the Governor and his aide-de-camp; cases also occurred in the Gold Coast colony at Quitta and Cape Coast. In September the presence of the disease was reported in the German Protectorate of Togoland, at Lome, where cases had occurred during the previous year; also at Dakar in French West Africa in November. In Southern Nigeria yellow fever became prevalent at Lagos in March, the prevalence extending to other places in the colony, including Wari, Ibadu, Yoruba, Forcados, and Abeocuta; a single ship-borne case was landed at Calabar in October. At the request of the Governor, Dr. H. **SEIDELIN**, of the Liverpool Yellow Fever Bureau, was despatched to the colony to assist in making special researches with a view to the discovery, if possible, of the specific parasite of the disease and to make other investigations. Dr. J. E. L. **JOHNSTON** and Dr. J. W. **SCOTT MACFIE**, in THE LANCET, have reported the finding of the paraplasma flavigenum in the blood of cases, and also in dogs at Lagos.

Yellow Fever in South America.

Yellow fever, formerly endemic in Rio de Janeiro, the capital of Brazil, has by means of modern prophylactic methods been completely banished from the city except for occasional imported cases from infected ports. But recently in the absence of the disease the enforcement of the measures has gradually slackened. During 1913 some cases were reported among the residents, the origin of the infection not being traced to outside sources. Six deaths were certified up to October, and it is now feared that the endemicity of yellow fever may be re-established in Rio de Janeiro if care be not taken. Other places which suffered in Brazil were Bahia, where 70 cases were notified, among whom was the British chaplain, whose case proved fatal, and Manaos, where 40 deaths occurred. A few cases were also heard of at Pernambuco and Ceara, and a single ship-borne case at Para. In Venezuela some cases occurred at Caracas, and in the republic of Colombia the presence of the disease was reported at Carthagena, the infection having been brought from the interior. Ecuador suffered somewhat severely from yellow fever during 1913, an epidemic occurring in Guayaquil and extending to Milagro, Naranjito, Duran, Bucay, Aqua Piedra, Yaguachi, and Babahoyo.

Yellow Fever in Mexico and the West Indies.

A few cases of yellow fever were reported during 1913 in the province of Yucatan at Merida and Maxcanu. The disease was also epidemic in the province of Campeachy, in the town of that name, from May to October, and also in the port of Carmen in the same province. Some cases were reported at Puerto, Mexico, in the province of Vera Cruz.

The only reported occurrences of yellow fever that have come to our knowledge in the West Indies were some cases in Trinidad and in Cuba; on two occasions a ship with infected persons on board arrived at the port of Habana. The first instance was in July, when the s.s. *Hydra* arrived from Manaos with the captain ill, reporting also that four passengers had died from yellow fever on the voyage. The second instance occurred in August, when the s.s. *Morro Castle* arrived with a yellow fever case on board—namely, a passenger from the infected town of Campeachy, who had shipped on board the vessel at the Mexican port of Progresso in Yucatan.

Small-pox in Europe.

An outbreak occurred in Sweden during April and May at Stockholm, comprising 37 cases, the infection having been brought from Russia. As usual, the malady was very prevalent in European Russia, epidemics being reported in St. Petersburg, Moscow, and Warsaw, and in less degree in Odessa, Batoum, Riga, and Libau. Small-pox often follows in the wake of armies in the field, and this was observed in the Balkans. At Constantinople the malady was epidemic during most of the year and also at Salonica, from which infection was carried by refugees on ships to the ports of Fiume and Trieste, where the infection spread. The occurrence of small-pox was reported in the Austrian provinces of Galicia, Bohemia, Dalmatia, Moravia, Carinthia, and the Tyrol, as well as in some parts of Hungary. Small-pox was severely epidemic in Eastern Servia and other parts of the Balkan Peninsula and in Greece. In Italy cases were notified in some of the large towns, including Palermo, Naples, Turin, and Rome. There were some serious epidemics in Spain, especially in Barcelona and Madrid, and in less amount in Cadiz, Almeria, Seville, Valencia, and Cordova. At Lisbon 123 cases were notified up to September, and a few instances were observed at Gibraltar and in Malta. In Switzerland small-pox appeared in several cantons, including Argau, Lucerne, Zürich, Basle, Grisons, Vaud, and St. Gall. In Germany 84 cases

National Memorial Association and the Welsh Insurance Commission, which have worked with much assiduity. In England the development of local administration in regard to tuberculosis has been actively promoted by the Local Government Board on lines which are now well known and have been generally followed. The county or borough is required to provide the necessary staff, a "dispensary" or "tuberculosis" medical officer (who acts as adviser to the Local Insurance Committee) with any necessary medical assistants and nurses; dispensaries of greater or less degree of elaboration are set up as the headquarters of the work of the tuberculosis officer, at which new cases can be treated or passed on to sanatoriums or hospitals, or to which they can return after leaving these institutions; sanatorium accommodation is made available for suitable cases requiring prolonged treatment; and hospital beds are secured for advanced, emergency, "observational," "educational," and surgical cases. The latter may be provided in separate pavilions at isolation hospitals, in a conveniently accessible sanatorium, or in a special hospital, while arrangements with general hospitals for receiving operative and other special cases are also advocated. The whole of the organisation (as distinct from clinical responsibility) rests, as a rule if not invariably, with the medical officer of health, to whose department the new officers are allotted, and close connexion between dispensary work and the execution of the various duties of the medical officer of health under the Local Government Board's Tuberculosis Order of last year is thus aimed at. This connexion is automatically supplied in county boroughs, where the medical officer of health has control over the whole sanitary organisation; but outside these areas, where responsibility is divided between the medical officer of health of the district and the tuberculosis staff of the county, considerable local adjustments appear to be necessary if the desired coördination is to be secured. In London arrangements for the provision of dispensaries have been made by several metropolitan borough councils, and sanatorium treatment has been supplied mainly by the Metropolitan Asylums Board. The importance of identifying this municipal work in future with the great general hospitals and the special consumption hospitals of the metropolis appears to be generally recognised, and some beginnings have been made in this direction. Our advertisement columns have testified to the large number of appointments of tuberculosis officers and resident medical officers of municipal hospitals which have been made during the year in consequence of the developments to which we have been referring. If we may judge negatively from the small number of substantial complaints which have been made in the lay press, and positively from the information at present to hand, these new public arrangements for treatment have been well received by those for whom they are intended, and there is already a large public demand, particularly among insured persons, for their rapid extension.

Much of the official action referred to above was based on the interim report issued last year by the Departmental Committee on Tuberculosis, of which Mr. W. ASTOR was chairman. The committee issued a final report in March, in which other aspects of the question of tuberculosis prevention were emphasised. Special recommendations were made as to the prevention and detection of the disease in child life, and to the importance of dealing with tuberculous milk infection by legislation on the widest possible lines, to prevent milk contaminated by bovine tubercle bacilli from reaching the consumer. The committee also considered that measures for the complete eradication of animal tuberculosis in this country, though necessarily gradual in their operation, should not be regarded as impracticable. Unfortunately, no further progress with pure milk legislation was made during the Parliamentary session. The Board of Agriculture, however, brought into operation in May a tuberculosis order under the Diseases of Animals Acts, requiring the existence of bovine tuberculosis, when accompanied by emaciation or udder disease, to be notified to the local authority, which in that case has the duty of causing a veterinary inspection to be made, as a result of which the animal may be slaughtered. Partial compensation for compulsory slaughter is payable within certain limits, a contribution to local rates for the purpose being authorised by the Board of Agriculture.

Among statistical studies of tuberculosis reference may be made to the observations of Dr. T. H. C. STEVENSON[5] on the disparities shown in the phthisis death-rates on the male and female populations of different administrative areas, a large male excess being characteristic of urban conditions; Dr. W. H. HAMER'S[6] examination of the important influence of migration on the phthisis death-rate; and Dr. A. K. CHALMERS'S[7] study of the rise and fall of mortality from pulmonary tuberculosis in Scotland, which emphasised the much greater decrease that has taken place in tuberculosis mortality among the industrial parts of that country, with its blended population, than that which has occurred in agricultural areas. As bearing on the question of individual or racial tolerance to certain strains of the tubercle bacillus, much attention has been given to the observation of Dr. A. STANLEY GRIFFITH,[8] who found human tubercle bacilli in the milk of a healthy cow which when a four days old calf had been inoculated intravenously with a culture of human origin. A supplementary volume to the final report of the Royal Commission on Human and Animal Tuberculosis, issued early in the year, gave a useful collection of data as to the response of different species of animals to tuberculin tests.

Syphilis and Gonorrhœa.

The reception given at the Seventeenth International Congress of Medicine to Dr. PAUL EHRLICH'S masterly address on Chemo-therapeutics[9] was something more than a tribute to brilliant scientific work; it marked also the growing feeling that the time has come for the use of the new weapons which we now possess for combating syphilitic infection on a large scale, in the hope before long of exterminating it altogether. On the following day[10] the joint session of Sections on Syphiligraphy and Forensic Medicine passed a resolution strongly urging on civilised governments both "confidential notification" of syphilis and systematic provision for the diagnosis and treatment of all cases of the disease. Earlier in the year a movement had been on foot in this country, with which Sir MALCOLM MORRIS was specially identified,[11] to secure a national inquiry into the extent of the prevalence of syphilis (or preferably of venereal diseases, including gonorrhœa) and the possibility of national action being taken which would be based on the knowledge which we now possess of the causative spirochæte, of the significance and diagnostic value of the Wassermann reaction, and of the curative power of salvarsan and like compounds. The appeal was favourably received by the Government, and a Royal Commission, of which Lord SYDENHAM is chairman, was appointed in October, "to inquire into the prevalence of venereal diseases in the United Kingdom, their effects upon the health of the community, and the means by which those effects can be alleviated or prevented, it being understood that no return to the policy or provisions of the Contagious Diseases Acts of 1864, 1866, and 1869 is to be regarded as falling within the scope of the inquiry." The Commission has already held several sittings, and its proceedings will be followed with interest, in the hope of good practical results. The nature of some at least of the considerations which will come before this body was indicated in a report on Venereal Disease, made by Dr. R. W. JOHNSTONE to the Local Government Board and issued in August,[12] which reviewed the information obtainable from military, naval, and civil sources, and indicated the need for concentrating preventive measures which include the provision of skilled treatment which would readily be accepted, at the earliest time, by infected persons. The report was based on an investigation of Poor-law, general, and special hospitals in regard to the provision made for the treatment of venereal cases, and in view of probable developments its suggestions had special importance to those who are responsible for the management of the institutions in question.

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[5] Annual Report of Registrar-General for 1911, p. lxxii.

[6] Proceedings of the Royal Society of Medicine (Epidemiology and State Medicine), vol. vi.

[7] [illegible] 1913.

[8] Journal [illegible] ary, 1913. [illegible] 5.

[9] [illegible]

[10] Ibid., p. [illegible]

Vital Statistics; Additional Census Volumes; New Form of Annual Report of the Registrar-General.

The increasing entry of health questions into public affairs naturally entails growing demands on the statistician, and on those who supply the statistician with his raw material. The issue during the year of further volumes relating to the Census enumerations of 1911 has made available analyses of the figures which are in considerable advance of those made after previous enumerations. Special reference should be made to the eighth volume, which gives statistics of some 8,000,000 "tenements"—i.e., the dwellings or portion of dwellings occupied by private families or persons living separately—in which the numbers of rooms per tenement and of inhabitants per room are analysed for every urban and rural district in England and Wales, and in various aggregations and combinations of these districts, while special detail is given for the larger cities. A notable diminution since 1901 in the proportion of the population living in one room- or in two-room tenements, and a corresponding increase in tenements of three or four rooms was disclosed by the figures as a whole, although they also showed conspicuously the large extent of overcrowding which takes place in dwellings in some of the northern counties. The Registrar-General's Annual Report has for the first time assumed the form of a massive folio, and while this has been a matter of lamentation at the many libraries that have been accustomed to the familiar octavo which has been issued continuously since the first report appeared in 1841, the alteration can be regretted on no other ground, as it has permitted wholesale revision of the scheme of the volume. For mortality purposes the confusing registration areas have gone, and are replaced by the areas of local sanitary administration, so that now a medical officer of health for any district, however small, can at once find separate statistics of the area over which he has charge, including deaths classified on the same basis (the so-called "short list") as that which he is himself required to adopt. Deaths are also allocated as far as possible to the proper area of residence, as a result of special arrangements for "transfer," and other important alterations have been made. The 1911 volume, it should be added, gives for each administrative area a "standardising" or correcting factor for age and sex distribution which is needed for many comparative purposes.

Mental Deficiency Act: Eugenics.

The Mental Deficiency Act has not yet come into operation, but it is necessary here to chronicle its passage, under the pilotage of Mr. MCKENNA, through the last session of Parliament. Its provisions are important and far reaching, as they not only involve the classification of mentally defectives in order that they may be controlled, by guardianship or in institutions according to the needs of the particular case, but also require that the local authorities concerned (county and county borough councils) should themselves take active measures to seek out defectives and make the necessary provision for them, with the aid of exchequer contributions. The Act, besides fulfilling its primary purpose of protecting the community from the results of the mentally defective being uncontrolled, may ultimately have a further result in diminishing the multiplication of defective stocks, and in this sense may be considered a practical advance towards eugenic ideals, such as those which were so well set out by Major LEONARD DARWIN in the address delivered to the Eugenics Education Society in June. On this aspect of public health, reference must be made to progress in studies of heredity in this country, well illustrated by the general address given by Professor W. BATESON to the Seventeenth International Congress of Medicine,[13] and by the work of the late Mr. EDWARD NETTLESHIP.[14]

Housing Problems.

Questions of improving the housing conditions of the labouring classes have received much prominence during the year, and at the time of writing are being specially brought to public notice in connexion with the deplorable conditions under which casual labour is housed in Dublin,[15] and with the "land programme" of the present Ministry, which is understood to include the promise of wholesale provision of cottages for the agricultural labourer. Medical officers of health have found it necessary, in consequence of recent housing legislation, to give a large amount of attention and detailed labour to this part of their official duties. The Local Government Board's special report on "Housing and Town Planning" for 1912–13,[16] issued during the autumn, has shown that the aggregate of local work done in England and

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[11] THE LANCET, June 28th, 1913, p. 1817.

[12] THE LANCET, August 23rd, 1913, p. 582.

[13] THE LANCET, August 16th, 1913, p. 451.

[14] THE LANCET, Nov. 15th, 1913, p. 1399.

[15] Ibid., Nov. 8th, p. 1334.

[16] Forty-second Annual Report of the Local Government Board 1912-13, Part II.

Wales under Mr. BURNS's Act of 1909 has been greater than is popularly supposed. In two-thirds of the sanitary districts in the country action had been taken to condemn houses unfit for habitation or obstructive buildings, and the record of some administrative areas was a particularly active one. Compared with previous years the provision of new working-class dwellings by local authorities in the absence of private enterprise has shown a marked increase in rural as well as in urban districts. In both these matters the progress made has largely been due to the zeal of sanitary officers, which, we fear, has been insufficiently recognised by those in authority. It is to be hoped that the work which local councils have been persuaded to get under way will not be allowed to slacken in consequence of the vista of competing State enterprise which has lately been opened out, until the nature, scope, and probability of the State action have been much more clearly defined. In rural districts the facts all go to show that the principal difficulty which has to be overcome in replacing insanitary and derelict cottages by better dwellings is the cost of the building itself rather than the price of land. Much has been written about the cheap country cottage which has been the subject of various departmental circulars and detailed study in the report of the departmental committee on the equipment of small holdings which was issued by the Board of Agriculture early in the year. It must be confessed, however, that the ideal £100 cottage as a building for permanent habitation on which money may be advanced seems further than ever from realisation.

The provision of block dwellings for the working classes in London and other large cities was made the subject of valuable contributions by Dr. LOUIS C. PARKES, Dr. E. W. HOPE, and others to the Society of Medical Officers of Health,[17] and reference must also be made to a valuable differential study of mortality in age groups in "apartment houses" of different sizes in Glasgow, contributed by Dr. A. K. CHALMERS.[18]

School Hygiene.

When the system of general medical inspection of school children was set up, it was obvious from the first that neither the central nor the local education authorities could long restrict their activities to inspections, and that organised systems of treatment must soon follow. For some time past "clinics" for special purposes, such as defective eyes, teeth, or skin diseases, have been a common part of local school medical organisations, especially in the larger centres, whilst some have gone further and include the treatment of disease generally in the functions of the school clinic. Not long ago local arrangements for treatment were facilitated by grants made by the Board of Education for this purpose and in support of special schools, and in August of the present year it was announced that these grants would in future be extended to cover half payment from exchequer funds of the expenditure of the local education authorities on the school medical service as a whole, the cost of inspection being included. In return for this substantial contribution from national funds new conditions are to be imposed in various matters of organisation and medical reporting. The department also announced its intention of substituting the compulsory inspection of all children between the ages of 12 and 13 for that hitherto made of the "leavers, and of adding to the inspection now required in the case of "entrants" and "leavers" a third or "intermediate" inspection of children aged from 8 to 9

We have reviewed the reports of numerous school medical officers during the year, and it is unnecessary to attempt any general account of them on the eve of the publication of the annual report of the medical officer of the Board. Reference may, however, be made to the frequent evidence that the scope of the school medical work is being widened beyond the detection of defective organs and the performance of minor operations, so as more and more to include advice on general preventive and curative measures, such as physical exercises, provision of meals, manual training, and improved methods of education. Although it is rather a misnomer, an effort is being made in some places to extend "school medical work" in such a way that it can provide for the care of the child both after leaving school and before its admission. Special schools and institutions for defective children continue to multiply, and in particular are being planned for tuberculous children, a portion of the Government funds for antituberculosis work having been ear-marked for the purpose. The advantage of open-air schools for certain classes of children, especially those suffering from tuberculosis and bronchial catarrh, rickets and nervous diseases such as chorea, is being increasingly realised in large centres, and was wel developed by Sir GEORGE NEWMAN in the *Chadwick* Lectures given last month at the University o London. As he there indicated, the open-air schoo movement has led to reconsideration of the whol type of the ordinary school building from the open air standpoint, and to the provision for the norma child of forms of educational and physical training the advantages of which have been proved in th case of the weakly and defective.

Infant Mortality and "Child Welfare."

A very valuable contribution to the workin literature of medical officers of health has bee furnished by the issue of Dr. A. NEWSHOLME' second report to the Local Government Board o infant and child mortality, in which a most usefu collection and classification of facts have been give of the incidence of mortality on different age period and from various causes in 241 urban areas c England and Wales, comprising three-fifths of th total population. The urban centres, or parts c them, in which excessive mortality occurs are ther prominently brought to notice, together with a account of the circumstances and conditions, man and varied as they are, which must be held to b related to their possession of this unenviable distinction. This important report has also, howeve made it clear that in recent years and in mos urban centres a very substantial saving of child lif is going on, and that the decline is not merely to b attributed to meteorological conditions which hav been unfavourable to the prevalence of the greates cause of mortality in infancy—epidemic diarrhœ It can be claimed with high probability that savin of infant life on a considerable scale has resulted from improved sanitary and housing conditions, from more efficient municipal and domestic cleanliness, from education in hygiene, and lessened intemperance. This good result must to a large extent be credited to the steady application which the sanitary departments of our larger towns have given to matters of daily detail, and to the development of health visiting and "child welfare" work. The latter form of municipal activity is at the present time receiving much attention. It aims at providing parents with advice which will conduce to the prevention of minor ailments, to their prompt discovery, and to the early treatment necessary for the prevention of more serious disease. Infant consultations and other arrangements with this object are already provided in a considerable number of urban centres. Various aspects of infant mortality prevention were discussed at the special congress on the subject held in London a few days before the International Congress and at the Congress itself. Much stress was laid by various speakers on the relations of mortality in the first few weeks of life and antenatal conditions, and the significance in this respect of deaths recorded as due to "premature birth" or "congenital defects." Another important aspect of the question, specially referred to by Dr. W. LESLIE MACKENZIE, is the absence of any sufficient municipal organisation to bridge the gap between the supervision by the public health authorities of the health of the infant, which is exercised up to 1 year of age, and the supervision under which he falls when he reaches the age of 5 and comes under school inspection. A useful circular was issued by the Local Government Board in July showing graphically the extent to which the Notification of Births Act had been adopted in each county in England and Wales, and urging county councils to make the Act applicable to all their constituent districts.

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[17] Public Health, June, 1913.

[18] Proceedings of the Royal Society of Medicine (Epidemiology and State Medicine), April 4th, 1913.

Industrial Hygiene: Factory Act Administration.

Prominent among the questions of industrial hygiene brought before the International Congress was the effect of different forms of dust in causing respiratory diseases. Dr. E. L. COLLIS and others there discussed the distinguishing properties in this respect of animal dusts, such as come from horn, silk, or wool, and are unaccompanied by pneumoconiosis; vegetable dusts, like flour or cotton, which tend to produce symptoms of the asthmatic type; and mineral dusts, which have further to be subdivided according to their physical and chemical characters. In the latter connexion the importance of free crystalline silica in the causation of pneumoconiosis was insisted upon, as also the distinction to be made between this disease and the complication of tuberculosis which so frequently supervenes, particularly where silicious dust is in question. Dr. F. W. EURICH'S account of some of the principal results of the work of the Anthrax Investigation Committee at Bradford, given to the Royal Society of Medicine,[1] showed the progress which has been made in localising the conditions of special danger (particularly to the detection of blood stains) in eastern wools, and in adapting preventive measures accordingly. A Home Office Departmental Committee on Compensation for Industrial Diseases, which reported in July, considered the legal difficulties which had arisen in consequence of the exclusion from compensation of persons who, though not suffering from the symptom of nystagmus, were, nevertheless, affected seriously by clonic spasm of the eyelids and other affections of the eye. The committee advised that these difficulties should be met by officially establishing a new definition, under the name of "miner's nystagmus," to cover the whole group of these eye affections. Dr. T. LISTER LLEWELLYN'S researches into the causes and prevention of this condition were reviewed in our issue of March 1st. The same committee advised that writer's cramp, subject to certain limitations, should be scheduled as a disease of employment for which compensation is payable, but rejected a similar proposition for Dupuytren's contraction among lace makers, where the essential dependence of the disease upon the occupation was insufficiently established. Sir A. WHITELEGGE'S last annual report on factory and workshop administration records the establishment of new codes of regulations for dangerous trades in regard to the weaving of cotton cloth, "bronzing," and the manufacture and decoration of pottery. The last of these codes, established after protracted discussion and public inquiry, made special provision for systematic medical examination of workers, and contained a large number of important hygienic requirements. In this, as in several other trades, the principle has been introduced of controlling the carrying of heavy weights by women and young persons. New regulations for the protection of persons employed in the manufacture of chromates and bichromates of sodium and potassium came into operation in September. Official inquiries were held also as to the measures to be taken to prevent "pitch warts," with the liability to cancer which accompanies them, in course of which the relative harmlessness of ordinary blast furnace pitch as compared with gas-works pitch has been brought out. According to Dr. H. C. ROSS and Dr. R. W. CROPPER, the mischievous ingredient in pitch derived from coal is not the anthracene oil itself, but an impurity in the rough anthracene cake—probably arising from special forms of vegetable life present in the carboniferous period. In connexion with the prevention of accidents, which forms so large a part of factory administration, it may be noted that several official rules now include the requirement that the firms concerned must provide suitable means of removing injured persons and keep first-aid appliances and sterilised dressings. Home Office conferences have been held regarding the unsatisfactory and unhealthy conditions of the labour of women engaged in gutting and curing herrings at Lowestoft, Yarmouth, and other places, with promising results.

Milk, Food and Dietetics.

As was well said by Sir THOMAS BARLOW in the course of his presidential address at the International Congress, cleanliness in the milk-supply, from start to finish, has a far more exhaustive meaning than in days gone by, and the necessity for reforms in current methods of obtaining, distributing, and storing milk were never better appreciated than they are at present. While, however, some progress has here and there been made as a result of philanthropy, private enterprise, or municipal activity, the necessary general reform still waits on legislation. Strong as are the reasons for Parliamentary action,[2] another Milk Bill has been stillborn, and meanwhile municipal authorities which require special powers to deal with tuberculous or dirty milk continue to complain that their action is paralysed. Among reports and papers on the purity of milk and food which have appeared during the year we may perhaps refer to Professor S. DELÉPINE'S address to the Paris Congress of the Royal

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[1] Proceedings of the Royal Society of Medicine (Section of Epidemiology and State Medicine), May 23rd, 1913.

[2] THE LANCET, April 12th, 1913, p. 1035.

Institute of Public Health on the control over tuberculous milk in Manchester by veterinary examinations. the report of the Vice-regal Commission appointed to consider the scarcity of milk in Ireland and its effects on public health, and the special reports issued by the English Local Government Board on the biological properties of milk and on the bacteriology of food poisoning. The increased cost of foods of all kinds which has taken place during the last eight years is officially computed at about 13 per cent.[3] and shows no signs of abating. Hence the question for the working class of the most economic way of spending money on nutritious and palatable food is increasing in importance, and the subject is receiving attention from public health authorities in many of the larger towns. In Glasgow a valuable report on the diet of the labouring classes has been made in the physiological department of the University under the auspices of the corporation.

The Public Health Medical Services.

The above notes of public health matters during the year necessarily relate to new movements rather than to the results of some of the more familiar activities of the medical officers of the large number of public bodies, central and local, whose functions include public health questions. If the health and comfort of the public are looked at as a whole, a year's progress would be barren indeed without the results of the labours of medical officers who, following well-established lines of work and investigation, have attempted day by day to secure better and more wholesome conditions of living in whatever direction they are able to do so. The new movements, added to the old, are naturally producing great alterations in the conditions of local service, specially marked in the large municipalities and in counties, where the bulk of the daily work has to be undertaken by "assistant" medical officers. The assistant officer hitherto has had reasonable chance of seeing himself later on a principal officer, but it must be admitted that the prospects of those who have lately entered local services as assistants, particularly in the school medical service, are not always encouraging, and the year has given many evidences of the demand which is arising for consolidation or reform of the public health medical services in various directions.

ANÆSTHETICS.

AT the Seventeenth International Congress of Medicine special interest attached to the Subsection of Anæsthesia, for, as the President, Dr. DUDLEY W. BUXTON, pointed out, anæsthesia for the first time was accorded a place in the programme of these international meetings. He contended that the anæsthetist of to-day was guided by a much more robust knowledge of the science of his art, having at his disposal a wide range of methods from which to select. The discussions embraced these methods: spinal and local analgesia; anæsthesia obtained by ether given by the "open" system, by intratracheal insufflation, by nasal and pharyngeal inhalation, by intravenous infusion, or by rectal and colonic absorption and intramuscular injections; chloroform inhalation by dosimetric methods; nitrous oxide with oxygen employed by the Teter method for major surgery; the adjuvant employment o such alkaloids as atropine, scopolamine, and morphine; hedonal and similar drugs introduce directly into the blood stream. The moder anæsthetist has not only to immobilise hi patients, but to deal with "shock" in s far as methods of anæsthesia may increase o diminish the effects of trauma. Hence discussion were held in the subsection on "anoci-association" (CRILE), the "acapnia" theory (YANDEL HENDERSON), and on those curious and little understood group of symptoms variously calle delayed chloroform poisoning, acidosis, post-anæ thetic toxæmia. The last-named subject wa brilliantly discussed by Dr. WILLIAM HUNTER an Dr. LEONARD GUTHRIE, to the latter of whor belongs the credit for the first clear clinica presentation of this matter in this country At the concluding discussion Dr. J. F. W SILK summed up all the preceding wor dealing with the selection of the best anæ thetic and most appropriate method of using i including both local and general anæsthesia. Th work of the section focused the present know ledge alike of anæsthesia and of analgesia in remarkable manner, giving an impetus to th adoption in the country of the newer methods an to the more careful study of continental and tran atlantic systems.

Spinal Analgesia.

Professor TUFFIER,[1] one of the pioneers. regard spinal analgesia as best accomplished by an intr dural method. He has used stovaine and trop cocaine, but recently has adopted novocaine, a dru which he regards as the safest of the synthet group of cocaine derivatives. He deprecates th employment of cocaine and the addition strychnine and suprarenin to the injected flui The extradural injection made between the sacr and coccygeal vertebræ Professor TUFFIER thinks safe, although at present it seems a less valuab method; with this view Mr. C. A. LEEDHA GREEN concurs. The relative safety of spin analgesia and general anæsthesia resolves itse into a comparison less of the methods th of the persons who employ them. The statisti advanced by Professor TUFFIER in favour of the spin method are those of experts, while those of gener anæsthesia are those of individuals who for t most part are both inexperienced and at tim careless, while their methods are frequently op to adverse criticism. Both systems, it is admitte have dangers, but each has its peculiar advantag in appropriate cases. Dr. G. GELLHORN,[2] in revie ing this subject, refers to KROENIG'S 2542 cas without a death, but with two cases of asphyx which were recovered; in 63 cases GELLHOR using novocaine with suprarenin, had three cas of incomplete analgesia, six in which ether had be used, and one case of collapse, another wi "air hunger." Vomiting was frequent when t peritoneum was opened; he had one case intractable headache. SELLHEIM reported 10 cases and one death. This percentage he regar as so satisfactory as to make the spinal method t "method of election." STRAUB'S and GAUSS'S view that if the injection is made in the sitting postu the analgesic becomes "fixed," so that there is b slight danger of its travelling into dangerous plac are interesting, although not fully borne out clinical records. Syphilitics need not be debarred from this method, although GELLHORN has noticed that in their case the amount of cerebro-spinal fluid is markedly lessened. DOEDERLEIN and KROENIG consider cardiac and pulmonary sequelæ to be less frequent after spinal than after general anæsthesia.

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[3] Board of Trade Report on Cost of Living of the Working Classes, 1913.

[1] THE LANCET, August 23rd, 1913.

[2] Journal of the American Medical Association, Oct. 11th, 1913

Dr. W. W. BABCOCK,[3] reporting 5000 cases, has chiefly employed stovaine. He reviews the physiology of the method. Stovaine applied to the floor of the fourth ventricle in the medulla of dogs stops respiration, but it is recoverable by artificial respiration. He regards artificial respiration as the correct method for resuscitation. Pre-existent shock is a contraindication to spinal injection since shock is increased by it, although the shock incident to the operation may be diminished. He finds that blood pressure falls in high injections and that interference with respiration occurs. He gives stovaine, 0·08 gramme; acetic acid C.P., 0·2 c.c.; alcohol C.P., 0·2 c.c.; distilled water, 1·8 c.c. Cyanosis is a danger signal. The preliminary use of alkaloids, although increasing the danger of respiratory failure, lessens nausea and vomiting. He prefers the method for operations in the lower abdomen and for cases of acute infection of the peritoneum. He considers that neurotics are unsuitable for it, as they often believe that spinal degeneration is developing and attribute it to the lumbar puncture. CHAPUT[4] points out that in persons over 40 the intraspinous ligaments are often calcified, and so a lateral puncture or incision through the structures under ethyl-chloride spray is necessary. He withholds food from the patient, giving him chloral hydrate and bromide of potassium half an hour before the puncture. He excludes children under 12, the aged, and those seriously ill, from the use of spinal methods. On the other hand, Mr. TYRRELL GRAY, speaking at the Congress, strongly advocated spinal analgesia for even very young children, and in a wide experience had seen no danger. M. DIMITRION and M. SAGHIESCO,[5] in their practice in a Roumanian military hospital, have adopted Jonnesco's high puncture, using small doses of stovaine, 0·03 to 0·04 gramme. If they fail to enter the theca at the first attempt the patient is sent back to bed for four or five days. K. VOGEL and A. KRAEMER[6] report a curious result of spinal puncture, severe vagal disturbances with bradycardia in a man aged 75. Tropacocaine was used. Professor J. T. J. MORRISON (Birmingham) in his Ingleby lecture,[7] gives his experience with tropacocaine in 1295 cases. He refers to syncope as common, and finds that incontinence of fæces may persist for weeks owing to paralysis of the sphincter. In two cases artificial respiration was called for, both being injections in the tenth dorsal interspace for operations on the liver. In one tracheotomy was necessary owing to paralysis of the diaphragm. In 5 per cent. severe headache; in 10 per cent. it was present, but less severe. There was one death, that of a patient in a very serious condition, in the series. Papers by Dr. FREEMAN ALLEN[8] on spinal analgesia and by Dr. W. S. CARTER[9] on the effects of intrathecal injections of Ringer's solution under varying pressures and in varying quantities should be noted. Large injections produced dangerous phenomena. After such injections atropine raised the blood pressure and cocaine stimulated the respiratory centre.

BUDESCHI[10] reports the results of 924 spinal stovainisations. Dose 4 to 7·5 centigrammes; average length of analgesia 40 to 45 minutes. In one case, as a result of inverting the patient, the analgesia reached to the top of the head. He found that when a patient who had had a spinal injection required further operation within a few days he needed a larger dose of stovaine to produce analgesia. If this observation is confirmed by other workers in this line it would suggest that the effect of stovaine is physical and persistent and not a mere transient interference with function. Pallor, sweating, partial failure of respiration and circulation, nausea and vomiting, and rectal incontinence (30 per cent.) are reported. In two cases severe collapse occurred; headache and retention of urine (10 per cent.) with persistent paralysis of the sphincters are noted among BUDESCHI'S cases, and he regards these accidents as detracting from the value of the procedure. Dr. W. S. BAINBRIDGE'S[11] record of spinal work is interesting; it consists of over 1000 cases. He used stovaine or tropacocaine in solutions approximately equal in density to that of the cerebro-spinal fluid. Seven cases of more or less serious after-effects and two deaths were noted. One death was attributed to lymphatism and one to the effect of "pathological conditions"—atheroma, cardiac, renal, hepatic, and pulmonary disease. As these conditions are commonly urged as contra-indicative to general anæsthesia and indicative to the use of the spinal method, it is noteworthy that even that system appears to be open to similar limitations as are the older methods.

Sacral analgesia is discussed by Dr. SCHLIMPERT.[12] He describes the technique. Veronal is given both on the night before and in the morning before the operation, while scopolamorphin or scopolanarcophin is ordered three hours before the puncture, since it is contended that scopolamine has an amnesic effect. The dose is lessened in the case of the cachectic. The patient lies on his side or in the knee-elbow posture. The pelvis is raised and [illegible] e sacral canal is chosen, its [illegible] in the hiatus canalis sacr[illegible] cralis. A hollow tube carrying a sharp mandarin is introduced, care being taken to avoid wounding the veins. The sense of resistance enables the operator to judge of his success. If a swelling follows the injection the fluid has gone into the loose tissues and not into the canal. This method is only serviceable for brief operations; it does not always give relaxation of the abdominal muscles and is inappropriate for fat persons. Novocaine and suprarenin in saline are employed for the injection.

Local Analgesia.

Professor HEINRICH BRAUN reported to the International Medical Congress on this subject. He showed pictures of his methods whereby every superficial area of the body can be injected, and further demonstrated how to apply his methods to the deepest regions. These methods had been rendered possible owing to the supersession of cocaine by the safer synthetic novocaine and by the introduction of suprarenin. Ischæmia is produced by the adrenal derivative, so that little of the analgesic is required. The adoption of a regional method made it possible to block all sensory conduction from the traumatised tissues. The details of Professor BRAUN'S technique are accessible in the third edition of his "Lokalanaesthesie," which has been recently issued. For infiltration he used 0·5 per cent. novocaine with suprarenin, and for conduction analgesia a 1 per cent. to a 4 per cent. of novocaine with suprarenin according to the tissues to be acted upon. Mr. LEEDHAM-GREEN, although restricting his practice within narrower limits, accepted Professor BRAUN'S statements as being in consonance with his own experience. With novocaine he was satisfied, but his use of hydrochloride of urea and quinine had not been so successful. Dr. EARLE[13] records a case of serious sloughing after the use of this analgesic compound. Professor BRAUN[14] suggests injecting the brachial plexus as it passes over the first rib by means of novocaine and suprarenin, for fractures and dislocations of the shoulder and arm. For the lower limb he relies upon injections made at the site of injury; these must be multiple and varied in direction. In the case of the hip-joint long needles are required to inject into the structures around as well as into the acetabulum. A 1 per cent. strength of the solution is said to be sufficient. The anterior superior iliac spine is the guide to the acetabulum in cases of dislocation, the needle being passed behind this point and kept against the bone until it enters the cavity. He claims that the muscles become relaxed so that reduction is rendered easy. KULENKAMPFF[15] adopts the following method of analgesing the brachial plexus; 2 per cent. novocaine solution with suprarenin is injected, while the patient sits up with his head supported. The subclavian artery is felt for above the clavicle, and a superficial infiltration is made immediately outside—i.e., opposite the middle third of the clavicle. The finger pressing inwards and backwards will make the first rib perceptible, as well as the cords of the plexus passing over it. The needle is made to enter at this point, and if the patient experiences tingling the cords are carefully injected. If no tingling is felt the needle must be partly withdrawn and its point moved backwards and forwards until a cord is struck. W. F. NEIL and F. CROOKS,[16] in 40 cases, only failed to reach the plexus four times. That there is some danger is shown by the experience of A. E. STEIN;[17] he failed to reach the plexus but damaged the phrenic nerve, paralysing the diaphragm, and causing very severe neuralgia. Useful papers on this subject are those of Dr. J. F. MITCHELL[18] and Dr. F. ROOD.[19] CARL DEUTSCHLÄNDER[20] discusses methods of obtaining analgesia of joints. It is essential to empty the joint tissues of blood which can be done by the use of BIER'S method. This accomplished the injection is made into the joint, not into the synovial membrane. The plan fails when the synovial membrane has been destroyed by disease, as no absorption can take place. Injections into the great sciatic nerve are made, according to P. BABITSOKI,[21] without difficulty. The finger is introduced into the rectum, and the needle, which pierces the gluteal muscles towards the ischial spine, is felt and guided to the nerve which passes beneath the pyriformis muscle. The method of Wilm for analgesing the pelvis is described by FRANKE and POSNER.[22] The patient is placed in the lithotomy position, a needle 12 to 15 c.m. long is introduced in front of the anus in the long axis of the trunk until a resistance (the levator ani) is felt. The finger in the rectum feels the ischial spine and guides the needle to the pelvic border of the bone. The needle is partly withdrawn and reintroduced for 2 to 3 c.m. just to the outer side of the ischial spine and 10 to 15 c.c. injected, which should parese the internal pudic nerve. The other side is then done, subsequently the structures between the rectum and prostate, and, last, the subcutaneous tissues. G. MAHÉ and P. VANEL[23] suggest that to obviate the dangers of suprarenal extracts in dental surgery they should be replaced by peroxide of hydrogen. Five volumes of peroxide and five of either a 1 per cent. cocaine solution or 4 per cent. novocaine are slowly injected until blanching of the gum appears.

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[8] S[illegible] Obstetrics, vol. xv., No. 5; also Journal [illegible]

[10] Gazzetta degli Ospedali, Feb. 25th, 1913.

[11] Journal of the American Medical Association, vol. lix., p. 1855.

[12] Surgery, Gynæcology, and Obstetrics, May, 1913.

Recent Methods of General Anæsthesia.

Ether.—Dr. R. H. FERGUSON (New Jersey, U.S.A.), dealt with the Open Ether Method[24] and demonstrated the value of a true drop method, using a mask (Dr. Ferguson's design).

Intravenous ether infusion.—Professor BURKHARDT (Nurnberg) opened the discussion. The veronal series (hedonal) he regards as less safe than the fatty acid series, and chloroform (he uses 0·97 per cent. in saline) is less safe than ether (he uses 5 per cent.). Isopral he suggests as a means for "introducing" ether; as soon as the patient is unconscious the isopral solution is succeeded by the ether. Renal complications do not in his experience of 600 cases follow ether infusion unless there is pre-existing nephritis. Asphyxia is due to the unduly rapid entry of ether. He regards the existence of a high blood pressure as a contra-indication to the method. Professor KÜMMEL extolled this method, speaking from a long experience with its use. W. F. HONAN and J. W. HASSLER[25] have used intravenous infusions of ether (5 per cent.), hedonal (0·75 per cent.), also a mixture of ether (3 per cent.) with paraldehyde (2·5 per cent.).

Intravenous infusion of hedonal.—Dr. Z. MENNELL[26] is convinced that although hedonal has many shortcomings it is valuable and chiefly in brain surgery, provided the narcosis is kept very light—i.e., the skin reflex active—and only small quantities employed. He deprecates its employment in all operations upon the air passages. SUKEVITCH reports 100 cases[27] of hedonal given per rectum as a preliminary to chloroform. It is dissolved in water and alcohol and is readily absorbed.

Intravenous infusion of paraldehyde and other drugs.—H. NOEL and H. S. SOUTTAR[28] employed a mixture of paraldehyde and ether, 5–15 c.c. of each in 150 c.c. of a cold 1 per cent. solution of sodium chloride in distilled water *free of dead bacteria*, or, failing this, an ordinary boiled tap-water. The solution must be clear after being shaken. They employed the salvarsan apparatus of Fildes and McIntosh, and introduced the needle direct into a vein. The temperature of the mixture must be below 25° C. They regard the method as of value for brief operations. The duration and depth of narcosis depend upon the dose. Mr. O. ATKEY,[29] using this method, infused a patient suffering from tetanus with paraldehyde and copious injections of saline.

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[13] Interstate Journal, Feb. 13th, 1913.
[14] Deutsche Medicinische Wochenschrift, January, 1913.
[15] Beitrage zur Klinischen Chirurgie, Band lxxix., Heft 3.
[16] Brit. Med. Jour., Feb. 22rd, 1913.
[17] Zentralblatt fur Chirurgie, April 19th, 1913.
[18] Journal of the American Medical Association Sept. 13th, 1913.
[19] Brit. Med. Jour., Dec. 21st, 1912.
[20] Zentralblatt fur Chirurgie, March 15th. 1913.
[21] Ibid., vol. xv.
[22] Archiv fur Klinische Chirurgie, Band xcix., Heft i.
[23] Presse Médicale, April 19th.
[24] See THE LANCET report of the International Medical Congress
[25] [illegible] Feb. 8th.
[26] [illegible] p. 555.
[illegible] 1912.
[28] Annals of Surgery, January, 1913.

Intratracheal insufflation of ether.—Professor S. J. MELTZER,[30] to whose extremely able report THE LANCET has already referred,[31] opened the discussion upon this subject at the Congress. He detailed the physiological experiments done by him and Dr. AUER which initiated the intratracheal method for etherisation. The method produces intrapulmonary plus pressure, rendering operations on the lungs possible without the production of artificial pneumothorax. The method also by limiting the respiratory excursion facilitates abdominal operations. The effect of the force of the return blast of air is to prevent completely any aspiration of fluids from the mouth or nasal passages into the lungs. The danger of traumatic emphysema of the lungs is obviated by interpolating a safety valve of mercury between the supply tank and the tube feeding the intubating catheter. If, as is usual, the maximum pressure is fixed at 22 mm. Hg, this valve automatically allows the escape of the air-ether mixture, preventing any excessive intrapulmonary pressure.

Dr. F. J. COTTON with Dr. W. M. BOOTHBY[32] fix the limit of intrathoracic pressure at 15 mm. Hg. Dr. MELTZER states, however, that a much higher pressure is safe although not desirable. It is essential, they say, that the patient should be deeply anæsthetised by some inhalational method before the catheter, usually of the French gauge 22 or 23, is introduced by the aid of direct illumination. The head should be slightly extended with the tongue drawn forward; this allows the epiglottis to be drawn out of the way, so the catheter passes easily into the larynx. If it enters the œsophagus and the stomach is distended the viscus must be emptied before withdrawing the catheter. Since ether boils at 96·5° F., if it is heated to this temperature ether vapour will pass into the lungs with dangerous effects. They deny the advantage claimed by Dr. GWATHMEY of superheating the ether-air mixture. The results of experiments upon cats are cited in elucidating the effects produced by the method. They conclude: (1) This method is the only safe one which ensures competent lung ventilation without thoracic movements; (2) hence its value for operations which *per se* interfere with the normal mechanism of respiration; (3) thus its value in intrathoracic operations and those upon the mouth, jaws, tongue, and upper air passages; (4) an ether-air mixture, the supply of which is controlled by a foot pump, is the best anæsthetic, although the nitrous oxide-oxygen mixture with minimal quantities of ether is indicated in some cases; and (5) a safety-valve preventing intrapulmonary pressure exceeding 15 mm. Hg is absolutely essential. Dr. C. N. PECK[33] gives his experience of the method in 412 cases. He met with six cases of lung complications occurring after the operation. Dr. SAM ROBINSON,[34] in reviewing 1400 cases, records seven deaths in patients who were in a very serious condition at the time of the operation. He asserts that the use of too small a catheter leads to persistence of the thoracic movements, and even to aspiration of fluids from the mouth. A useful and practical paper by Dr. CHEVALIER JACKSON[35] describes the technique of passing the catheter into the larynx. Various forms of intratracheal insufflators were exhibited at the Congress in the Subsection of Anæsthetics[36]—viz., those of Dr. Elsberg, Mr. Kelly, Dr. Shipway, that of Mr. Boyle,[37] which is simple and easily worked, and that of Dr. Ehrenfried (Boston), an apparatus which fulfils the desiderata given by Dr. BOOTHBY and Dr. COTTON. Dr. Janeway's apparatus was demonstrated by Dr. NAGLE, and is an excellent one; he gave his experience, a favourable one, of 300 cases.

A valuable paper of experimental research into the percentages of ether vapour during anæsthesia, by Dr. W. M. BOOTHBY,[38] is worthy of reference.

Nitrous oxide and oxygen in major surgery.—Dr. TETER'S full presentation of the advantages of this plan before the Congress focuses the knowledge we possess of the method. His improved apparatus makes a prolonged anæsthesia possible. He advocates some rebreathing, insists on warming the vapours, and upon accurate control over the pressure of the gases and upon the quantity which passes in a unit of time. Mr. H. M. PAGE, who has employed the method in this country, contributes a paper to the Royal Society of Medicine.[39] Papers may be noted by H. FAIRLIE,[40] H. G. SLOAN,[41] S. LEIGH,[42] C. S. HURST,[43] R. C. COBURN,[44] and E. H. EMBLEY.[45] This last named paper gives some important experimental work anent this method and shock. Dr. SKEEL[46] and THE LANCET of Feb. 1st criticised adversely the method in question.

The use of alkaloids, either replacing or as adjuvants to general and local anæsthetics, was discussed at the Congress by Dr. GAUSS (Freiburg), Dr. W. J. MCCARDIE (Birmingham), and Dr. GIUSEPPI, while Mr. L. E. C. NORBURY and Mr. A. F. MORCOM have published their experience.[47]

Anoci-association and shock.—Dr. CRILE'S vigorous exposition of his views has appeared fully in THE LANCET[48], and Professor YANDELL HENDERSON'S views upon the importance of preserving a normal CO_3 content in the blood are too well known to need detailed description of his acapnia theory. Dr. SEELIG, Dr. TIERNEY, and Dr. RODENBAUGH[49] give valuable experimental data on this point.

Chloroform.—Dr. DUDLEY BUXTON'S report upon the dosimetric method was published in THE LANCET of August 16th, p. 464.

Toxæmias associated with anæsthetics.—Besides the important pronouncements of Dr. W. HUNTER and Dr. L. GUTHRIE and of Mr. TYRRELL GRAY made at the Congress, and reported in THE LANCET, a valuable paper by Dr. J. E. PIPER has appeared in our pages.[50]

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[29] THE LANCET, Jan. 18th, p. 168.

[30] [illegible] New York

[33] [illegible]

[39] [illegible] Medicine, Section of [illegible] 44.

[40] Brit. Med. Jour., April [illegible]

[41] [illegible] American Medical Association, Sept. 13th

[47] [illegible] Anæsthetics, vol. [illegible], [illegible] and [illegible]

[48] THE LANCET, July 5th, p. 7.

[49] American Journal of Medical Science, August

[50] THE LANCET, August 23rd, p. 535.

THE NAVAL, MILITARY, AND INDIAN MEDICAL SERVICES.

Royal Naval Medical Service.

The record of the medical department of the Royal Navy continues, we have reason to believe, to be one of contentment regarding the essential conditions of service. The retirement of Surgeon-General Sir **James Porter**, K.C.B., from the position of Director-General, at his own request, was a great loss to the Royal Navy. He had proved a capable head of the medic [illegible] a period of transition, and [illegible] in the organisation and nursing arrangements of naval hospitals were effected during his term of office. He has been succeeded by Surgeon-General A. W. **May**, C.B., who has served with distinction in the Egyptian and Soudan expeditions of 1882–85, and throughout the whole course of the Boer war.

The recently established medical college at Greenwich continues to fulfil the expectations formed as to its efficiency and popularity. The proximity to the centres of medical thought and training in the metropolis cannot fail to have a good effect and lead to a general advancement of the standard of professional efficiency, such as has been so noticeable in the kindred institution of the military medical service at Millbank. A portion of the curriculum continues to be carried on satisfactorily at Haslar, so that there has been no breach of continuity in the associations with that historic centre of naval medical training.

The Lords Commissioners have adopted certain recommendations[1] of the Medical Consultative Board made with the object of remedying to some extent the shortage in the medical branch. Some distinct emendations of the conditions of service ought to have the designed effect.

The Honours list for the year includes a K.C.B. conferred upon Inspector-General **Duncan Hilston**, who has served in the New Zealand war of 1863, and in Abyssinia; and a C.B. for Deputy Surgeon-General W. M. **Craig**. Special promotion has been granted to Surgeon G. M. **Levick** and Surgeon E. L. **Atkinson** (to fleet and staff rank respectively) for service in the recent Antarctic expedition.

The death roll has been a short one during the past year. Deputy Surgeon-General J. **Lloyd Thomas** had served in the China-Japan war of 1894–95, and was present at the relief of the Peking legations (1900). Serving with the Royal Navy, though not a member of the Naval Medical Service, was **Edmund Adrian Wilson**, whose death in Captain Scott's Antarctic Expedition led to a widespread and spontaneous expression of affectionate regard and admiration.

The Army Medical Service.

Scientific Research Work.

Sir **David Bruce** and his coadjutors on the Sleeping Sickness Commission have continued the study of trypanosomes. Their earlier observations pointed to the conclusion that the organism of the human disease in Nyassaland, T. rhodesiense, is a species related to, but distinct from, both T. brucei and T. gambiense, and that therefore the human trypanosome disease of N.E. Rhodesia and Nyassaland is not the same as that known as sleeping sickness in Uganda and on the West Coast of Africa. The native name "kaodzera" was suggested for this new disease. From the most recent research however, it appears probable that T. rhodesie and T. brucei are identical.

Major W. S. **Harrison** has studied streptococ rheumaticus, and does not consider it to be cause of the usual form of rheumatic fever. He found a bacillus resembling that of diphtheria rheumatic joint fluids and pleural exudat which possibly may be causative. Valuable obs vations have been carried out by Captain P. **Marett** on phlebotomus flies (commonly mis-cal "sandflies," which belong to the genus Simuli in Malta. An accurate knowledge of their li history and habits leads to the carrying out effective measures of prevention, and much provement has already resulted from this practi application of scientific research. Major S. **Cummins** and Major C. C. **Cumming** have be engaged in the differentiation of staphyloco present in vaccine lymph.

An important research has been carried out Lieutenant-Colonel W. W. O. **Beveridge**, D.S.O., conjunction with Mr. J. **Hartley Durrant**, of British Museum, on the temperature reached in baking of biscuits. Army biscuits are liable become infested with various species of inse lepidopterous and coleopterous. It was found t biscuits enclosed in tins hermetically sealed a still intact were infested. Consequently either heat in baking is insufficient to destroy the ova, moths and beetles gain access and deposit their during the processes of cooling or packing biscuits. It was determined, by experiments w a thermo-couple, that the temperature in interior of the biscuits reaches 100° or 105° C. duri the baking process, and that infestation must ta place after baking, during cooling, and before tins are soldered up. The observers recommend t the biscuits should be rapidly cooled after baki and access of moth prevented. Major S. L. **Cumm** in his Parkes Memorial Essay on Causation a Prevention of Enteric Fever in Military Servi has recorded a long series of observations a experiments as to the survival of B. typhosus in excretions, and on the clothes and persons, carriers and in food. Successful prevention w consist in the discovery and disposal of chro carriers, the detection of early, atypical, and ab tive cases, and in the inoculation of all troops the expeditionary force during peace time and all drafts proceeding to the scene of operati during war. Colonel W. H. **Horrocks** has c tinued his experiments on the variation of bacil typhosus cultivated under certain conditions, es cially with regard to the effect of bacteria-f toxins. He has found that B. typhosus may converted into B. fæcalis alkaligenes: this appe to have no pathogenic effect on the ordin laboratory animals, and it has not been possible re-convert this variant into B. typhosus. T treatment of syphilis by intravenous injection salvarsan and intramuscular injection of mercu has been carried out on an extended scale Lieutenant-Colonel T. W. **Gibbard** and Major L. **Harrison** with most excellent results. Their obs vations and record of this therapeutic investigat were communicated to the International Congr of Medicine and were received with great inter and appreciation.

Military Medical Organisation.

No changes of importance have taken place duri the past year in the organisation of the medi

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[1] The Lancet, Dec. 6th, 1913, p. 1649.

services. The Secretary of State for War, both in introducing the Army Estimates in the House of Commons and on the occasion of his distribution of prizes at the Royal A
to the high standard o
British Army and to tl
service. This good w
tion, and the result sh
an efficient administration and a contented body of army medical officers.

At the beginning of the year it was announced that the appointment of Director-General, Army Medical Service, would in future be tenable for four
-General
remain
Director-General until March 6th, 1914. It has been announced that his successor will be Surgeon-General A. T. SLOGGETT, C.B., C.M.G., at present Director-General of Medical Services in India. The increase in duration of tenure brings this office into line with other staff appointments at headquarters, and is no doubt desirable in the interests of the public service; too frequent changes in high administrative offices are to be deprecated. It has been announced that an increase of hospital accommodation will be provided for the Territorial Force, by establishing 14 nucleus clearing hospitals, one for each Territorial Division, which will form centres for the instruction and guidance of voluntary aid detachments.

Personnel.

On the occasion of His Majesty's birthday a C.B. was conferred on Surgeon-General L. E. ANDERSON, D.D.M.S. in Ireland; and Major E. S. WORTHINGTON, medical officer to the Duke of Connaught, received a knighthood. Lieutenant-Colonel Sir W. LEISHMAN has been appointed Honorary Physician to the King and promoted to Brevet Colonel; and Major R. J. BLACKHAM has received a Companionship of the Order of the Indian Empire. At the Royal Army Medical College Lieutenant-Colonel O. L. ROBINSON has succeeded Major W. S. HARRISON as Professor of Tropical Medicine; and Major C. E. FOWLER has been appointed Instructor at the Aldershot School of Army Sanitation. We note the retirement of Lieutenant-Colonel Sir DAVID SEMPLE, who, as the founder of the Pasteur Institute in India in 1900, and subsequently as the head of the Research Institute at Kasauli, has done such admirable work in the treatment of rabies, the preparation of antisera, and the training of medical men in scientific investigation in India.

The obituary list includes the names of three Crimean veterans, Deputy-Surgeon-General G. SANDERS, C.B., in his ninetieth year; Deputy-Surgeon-General A. S. FOGO, aged 84; and Surgeon-Major ALEXANDER REID, aged 80; also of Deputy-Surgeon-General N. NORRIS, in his eighty-third year, who served in the Jowaki, Afghan, and Nile expeditions. Surgeon-General H. S. MUIR had served in the Afghan campaign of 1878–80, and before retirement was Deputy-Director-General of the Army Medical Department. Major H. C. FRENCH died at the early age of 43. He had served in the South African war, had been awarded the Albert Medal and the Royal Humane Society's medal for gallantry in attempting rescue from drowning in the Straits of Malacca, and had devoted much attention to the prevention and treatment of syphilis in the army. He was Hunterian professor at the Royal College of Surgeons in 1912. Colonel ANDREW CLARK had zealously supported the medical service of the Territorial Force, in which he was Assistant Director of Medical Services. Dr. PHILIP FRANK, though long retired from the Army Medical Service, was known to very many of the older generation, and universally held in the highest regard.

THE INDIAN MEDICAL SERVICE.

Scientific Work.

There is never any lack of subjects for original medical research in the immense area open to the officers of the Indian Medical Service. Of late years plague has held a prominent place in medical literature, and at the beginning of the past year a report was issued, the seventh of the series, on plague in Madras; the inquiry is still in progress. In regard to cholera great success has attended Major LEONARD ROGERS's method of transfusion of hypertonic saline solution, combined with administration of permanganates by the mouth; the same officer has also obtained extremely gratifying results in the treatment of intractable amœbic dysentery by hypodermic injection of salts of emetine. The All India Sanitary Conference held at Madras in November, 1912, under the presidency of Sir HARCOURT BUTLER, was an important gathering of administrators, engineers, and medical men, at which technical questions in each of the two spheres of professional work were dealt with by experts and criticised from all points of view. There can be no doubt that much good will come from such a gathering together of experienced men, accustomed to deal with the management of epidemics, large questions of public health, and problems of administration. Meeting together on common ground, with opportunity for personal interchange of experience and opinions, doctors and engineers and administrators will certainly benefit by the mutual intercourse, with a resulting benefit to the public service and the public health. Plague prevention, water-supply, and sewage disposal were the principal subjects discussed. This conference was followed by another on Malaria, under the presidency of Sir PARDY LUKIS, which lasted three days; questions of epidemiology, prevention and curative treatment were dealt with, also kala-azar and protozoal diseases. A Punjab Conference on similar lines was held at Simla later in the year, under the Lieutenant-Governor of the province, when rural sanitation, the sanitation of schools, and the prevention of malaria were discussed. Major R. MCCARRISON delivered the Milroy lectures in January, embodying his researches on the etiology of endemic goitre, which he believes to be essentially due to a micro-organism. Major E. E. WATERS has investigated the value of the amorphous cinchona alkaloids in malaria, and finds them to be from three to five times as effective as quinine sulphate. It is expected that the laboratories of the Calcutta School of Tropical Medicine will be completed and ready for use next year, in connexion with the Medical College Hospital. A similar institution is being developed at Bombay in connexion with the existing laboratories at Parel. The Indian Government have sanctioned the establishment of a bacteriological institute at Maymyo, the chief hill station of Burma, together with additions to the Pasteur Institute at Rangoon. In place of the Scientific Memoirs by officers of the Indian Medical Service that have appeared during recent years at irregular intervals there will now be published quarterly an Indian *Journal of*

Service issued a report which contained the recommendation that chemists and druggists should be exempted from jury service; at present only pharmaceutical chemists are exempt, and it is hoped that in due course the Committee's recommendation will be embodied in an Act of Parliament. In August a Bill was introduced in the House of Lords by Lord LAMINGTON, the object of which was to prevent medical prescriptions which contained scheduled poisons from being used as a means of obtaining an undue quantity of the medicine prescribed. It provided that where the medicine prescribed by a medical practitioner contained a scheduled poison the prescription should not be dispensed more than once unless the medical attendant directed that it should be repeated. No progress was made with this measure, and it is doubtful whether it will receive enthusiastic support if it is reintroduced. The principle underlying the measure is no doubt sound, but it is questionable whether the proposed manner of applying it is the most expedient.

GENERAL MEDICAL COUNCIL.

The summer session of the General Medical Council lasted four days. An interesting report was received from the Education Committee on the standard of preliminary education in general knowledge. Recommendations from the committee were adopted by the Council with regard to the scope and character to be maintained in any preliminary examination in general education for which recognition is sought as qualifying for admission to the Students Register. The winter session also lasted four days and was presided over by Mr. C. S. TOMES, one of the Crown Representatives, in the unavoidable absence of Sir DONALD MACALISTER, who was, unfortunately, not well enough to be present. We note the way in which the business is disposed of in the minimum of time—viz., four days, because short sessions mean an enormous saving of expense. But we would remind our readers that these do not mean less work; they imply that the delegation of great quantities of work to good and energetic subcommittees is regularly bearing fruit. Among the most important business of this session may be mentioned certain cases of advertisement of medical men in the interests of Approved Societies, medical aid associations, and other institutions. The evidence before the National Health Insurance Act Committee that abuses of this sort were going on was abundant. It was considered *in camerâ*, but letters from the Registrar to a practitioner and to the secretary of a medical aid association pointing out the gravity of such irregularities were read in public. Mr. VERRALL pointed out that the transference of panel patients in bulk from one list to another conduced to the evil, and the Council unanimously resolved to call the attention of the National Insurance Commissioners to the necessity for preventing this practice.

The financial position of the Council is just now satisfactory, a surplus being announced for the last completed year (1912) of £1105 being largely accounted for by the reduction of over £900 in expenditure. The zeal of Mr. NORMAN KING, Registrar of the Council, in bringing about economies has contributed to the satisfactory position in which the Council now finds itself. It must be remembered that the income of the Council depends upon the number of medical men who pay for registration, and that the outgoings the Council are to a great extent regulated by length of the sessions. If in any year the Council receiving a smaller sum than usual, is by unavoidable circumstances driven to hold long or additiona sessions, the surplus would inevitably be replace by a deficiency.

BRITISH MEDICAL ASSOCIATION.

The British Medical Association has had a anxious year. The responsibilities and expense have been much aggravated by its great services i regard to the National Insurance Act, and at th annual meeting held this year at Brighton proposal were ventilated to raise the annual subscriptio and to form a fighting and insurance fund o voluntary members. The meeting was well attende in face of the fact that the International Medica Congress was due only a few days later, and th Representative Body of the Association dul approved the recommendation of the Council t raise the annual subscription of the Association to £2 2*s*. and to form a great fund for organisation and defence purposes.

A Special Representative meeting was held i London at the beginning of December, when it wa agreed, by the necessary majority, to raise th annual subscription to £2 2*s*.; but consideratio of the scheme to raise a fund from 10,000 member at an annual subscription of £4 4*s*. for the development of the organisation of the profession wa postponed until next July.

MEDICAL PRACTICE UNDER THE NATIONA INSURANCE ACT.

Our readers have been kept informed of th working of the National Insurance Act througho the year, and have probably reached the conclusio which we have reached, that nothing like finality i the arrangements for the administration of medic benefit can be expected for a long time. A gener movement on the part of a large group of medic men to alter the legal basis upon which th administration of medical benefits is now founde came into existence at the close of the year. Th broad expectation of this group is that a stron combination of practitioners, resolved in no circumstances to serve on the panels, may result in th repeal of the contract system, and the distributio of the funds to the insured persons with discretio as to the way the money is spent. Of course, th possibility that such a movement, if successfu would lead directly to a State medical service h been fully recognised by the protagonists. Associ tions have also been formed to protect the interes of panel practitioners and to promote the form tion of a State medical service. The medic profession . as a whole is not yet reconcile either to the principles or to the working of th measure. There is no unanimity of this kind record, even if active opposition to the Act h much decreased. It is perfectly true that th incomes of many medical men have been improv by position upon the panels, but at the same tim the Regulations under which medical benefit administered, despite various recent modification are not satisfactory, and the latest Regulations hav come in for a good deal of legitimate criticism i our columns and elsewhere. The attitude of th Commissioners towards those who have approache them with representations that the Regulation ead oppressively in various directions has been tudiously conciliatory.

That our readers might follow the working of the ct we sent a Special Commissioner to report from eek to week upon the points of particular interest different centres.

Southampton, Kent, and Reading.

In commencing his investigations our Special ommissioner first went to Southampton, a town ith which he was familiar, having described on revious occasions how the medical practitioners siding there had united to provide medical aid r those who could not pay the minimum fees. he Provident Medical Association thus formed as converted into the Public Medical Service nd now deals mainly with the dependents on e insured. With regard to insured patients eat difference of opinion existed among the edical men whether the Act was right or rong. It was held by some that the regularity payment from all, whether ill or well, would ve a better result. The fees obtained from ivate patients whose incomes exceeded £100 year, and were under the income-tax limit, uld be lost, but poorer patients would not treated for next tonothing. In the richer rts of the town practitioners held the opposite inion.

In Kent, at Gillingham notably, the greatest imosity against the Act was manifested. The ssibility that it would encourage the "sweating" medical men engaged at fixed salaries by institu- ms that had provided medical aid before the ssing of the Act was early seen. Of 800 practi- ners in Kent only some 50 joined the panel, and e feeling at Gillingham between the "panelites" d the "anti-panelites" was so strong as to interfere th the amenities of life. Some sections of the blic also joined in the outcry against the Act, d when ill refused to consult their panel doctor. is feeling was accentuated by the fact that the nel doctor who enjoyed the highest reputation signed his position on the panel after giving the stem only ten days' trial.

At Reading the medical profession, being well ganised, succeeded in carrying several important ints. There existed an old-fashioned dispensary th more than 16,000 members out of a population [illegible] Act came into force, to avoid [illegible] the local practitioners con- [illegible] to the Borough of Reading edical Society, Limited, and bought up the ading Dispensary and all its appurtenances. At e same time, as the object was to regulate medical actice and not to make profits, the shares ar no dividend. The Reading Dispensary pro- les medical attendance for the non-assured within ell-established wage limit and on a sliding scale small subscriptions, according to the position of e subscriber. Thus early in the investigation it came evident that the position of the dependents the insured was a matter of almost as much ncern as that of the insured themselves. The ading Insurance Committee was one of the few e and exceptional committees who agreed to ablish a wage limit, which, however, it fixed at 10s. a week, a figure too high to be of practical e beyond constituting an acknowledgment of e principle that under the Act Insurance mmittees can impose a wage limit for the eipt of medical benefit through the official annel. The wage limit was abandoned.

Carlisle.—Scotland.

Travelling to Scotland, but stopping on the frontier at Carlisle, our Commissioner had his first experience of practitioners and conditions favouring the Act. Certainly it was only a minority who favoured the Act, but they persuaded the others to accept its conditions. Those who held large club practices found that the 7*s.* under the Act, instead of from 2*s.* 6*d.* to 4*s.* which they used to receive from the clubs, greatly increased their incomes, even if the work was harder. Others, while acknowledging the financial advantage, felt that their work was not in keeping with the dignity of the profession or likely to promote the best interests of medical science.

Dumfries was the next centre visited, and there our Commissioner first came upon the allurements of sick pay. Thus a labourer belonging to two Friendly Societies that allowed 9*s.* a week sick pay, making when added to the 10*s.* under the Insurance Act a total of 28*s.* a week, was receiving when ill a good deal more than, as a labourer even when in full work, he could hope to earn. Such conditions constitute a strong temptation to malingering. It was at Dumfries also that the effect of the Act in reducing the sale of quack medicines was first demonstrated to him. In Scotland insured persons soon discovered that they could get medicine for nothing, with a much better chance of its proving to be the sort of medicine they really needed than they ever had when nostrum buying.

Nor was there much opposition shown to the Act at Glasgow. It was felt that the medical practitioner was in a better position under the Insurance Committees than under the lay committees, composed for the most part of workmen who were his employers when he worked for a club or a Friendly Society. But financial and scientific interests do not harmonise. The poorest class of practice pays best in Glasgow, it appeared, for here the least attention need be given to each patient; in fact, the profit of contract work depends on the quantity of patients seen rather than on the quality of the work done. From Glasgow our Commissioner visited the neighbouring mining centre of Bothwell, the metal working centre of Motherwell, and the agricultural centre of Milngavie. One of the unexpected results of the Act was discovered in connexion with mines and great ironworks. Here the workmen were attended by what was known as the "works' doctor," sometimes engaged by the employers, sometimes elected by the working men, but always enjoying a monopoly. This privilege is now destroyed, and the "works' doctors" have become panel doctors with the same chance as all the other neighbouring practitioners. Consequently the Irish and Roman Catholic workmen were free to select as their medical attendants such men of their own country and faith as might be on the panels. It results that at Glasgow, at Motherwell, and many other industrial centres throughout the country, where Irish labour has been attracted, the Roman Catholic doctors have suddenly received a great increase of patients. It became clear from experience here that in industrial centres anxiety prevails as to what will be done for the dependents of the insured; and where the [illegible] nised in strong trade unions there [illegible] also feel they should be banded together [illegible] ilar fighting organisation with a substantial strike fund to fall back upon.

From Glasgow our Commissioner went to Edinburgh, where he found the Scotch Commissioners be carried out. It was also of the utmost importance that satisfactory education should be provided *for medical* students, so that they should thoroughly understand syphilis and how to diagnose it in its early stages, so that all delay in dealing with the disease might be avoided.

At the eighth meeting of the Royal Commission on Venereal Diseases evidence was given by Sir William Thompson, Registrar-General for Ireland. He said that as a cause of deaths venereal diseases played relatively a small part in Ireland. *The death-rate from syphilis and* allied diseases was 0·78 per 10,000 of the population, whereas the figures for tuberculosis at the head of the list were 21·52 per 10,000. Compared with previous years the deaths from syphilis and general paralysis of the insane appear to show a tendency to increase, but Sir William Thompson thought that much of the increase was more apparent than real, and was due to the more careful recording of deaths. The greater part of the deaths from venereal diseases occurred in the two cities Dublin and Belfast. In Dublin the figures were abnormally high, the death-rates from syphilis and general paralysis of the insane being about twice those for London. On the whole the incidence of venereal diseases in Ireland was very much lower than in the rest of the United Kingdom; the syphilis death-rate was only that of England and Wales, while with regard to infant mortality the number of deaths due to syphilis per 1000 births in the three kingdoms were: England *and* Wales, 1·29; Scotland, 1·4; and Ireland, 0·59.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8408 births *and* 4952 *deaths were registered* during the week ended Saturday, Dec. 13th. The annual rate of mortality in these towns, which had been 13·4, 14·1, and 13·2 per 1000 in the three preceding weeks, rose to 14·5 per 1000 in the week under notice. During the first 11 weeks of the current quarter the mean annual death-rate in these towns averaged 13·7, against a [illegible] 13·6 per 1000 in London during the sam[illegible] several towns the death-rate ranged fr[illegible] 4·8 in Newport (Mon.), 5·2 in Enfield, 7·9 in Aberdare, and 8·3 in Hornsey, to 20·8 in South Shields, 21·0 in Great Yarmouth, 21·4 in Swansea, 24·1 in Middlesbrough, and 26·3 in Dudley.

The 4952 deaths from all causes were 448 in excess of the number in the previous week, and included 324 which were referred to the principal epidemic diseases, against numbers steadily declining from 925 to 269 in the nine preceding weeks. Of these 324 deaths, 94 resulted from infantile diarrhœal diseases, 70 from diphtheria, 57 from whooping-cough, 54 from measles, 26 from enteric fever, and 23 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases in the week under notice was equal to 0·9, against 1·0 and 0·8 per 1000 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 149, 152, and 101 in the three preceding weeks, further declined to 94; of this number 34 were recorded in London, 4 in Portsmouth, 4 in Bristol, and 3 each in *Stoke-on-Trent*, Oldham, Middlesbrough, and Newcastle-on-Tyne. The deaths referred to diphtheria, which had been 76, 65, and 45 in the three preceding weeks, rose to 70 during the week, and included 18 in London and its suburban districts, 9 in Birmingham, and 8 in *Manchester. The fatal case*[illegible] had been 33, 39, and 32 in the thr[illegible] o 57; 14 deaths were registered in [illegible] and 6 in Liverpool. The deaths [illegible] which had been 50, 39, and 40 in the three preceding weeks, rose to 54 in the week under notice, and included 11 in Burnley, 7 in Sheffield, 6 in London, and 3 each in Leicester, Barnsley, and Middlesbrough. The deaths referred to enteric fever, which had been 21, 18, and 14 in the three preceding weeks, rose to 26, which was the highest number of deaths from this disease recorded in any week of the current year; of this number 3 occurred in London, 3 in Newcastle-on-Tyne, 2 in Nottingham, and 2 in Rhondda. The fatal cases of scarlet fever, which had been 32, 35, and 37 in the three preceding weeks, declined to 23, and included 5 in London, 3 in *Liverpool*, and 2 each in Birmingham, Manchester, Salford, and South Shields.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily increased from 2112 to 4143 in the 34 preceding weeks, slightly declined to 4137 on Dec. 13th; 552 new cases were admitted during the week, against 568, 618, and 524 in the three preceding weeks. These hospitals also contained on Dec. 13th 1160 cases of diphtheria, 169 of whooping-cough, 61 of enteric fever, and 54 of measles, but not one of small-pox. The 1231 deaths from all causes in London were 129 in excess of the number in the previous week, and were equal to an annual death-rate of 14·2 per 1000. The deaths referred to diseases of [illegible]m, which had been 214, 261, and 227 in [illegible] weeks, rose to 291, but were 54 below the [illegible] the corresponding week of last year. [illegible] from all causes in the 96 towns, 188 were attributed to different forms of violence, and 432 were the subject of coroners' inquests. The causes of 33, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Leeds, [illegible] castle-on-Tyne, Salford, and in 55 ot[illegible] the 33 uncertified causes of death, [illegible] Liverpool, 4 in Birmingham, 3 in Coventry, 3 in St. Helens, and 2 in Warrington.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1107 births and 734 deaths were registered during the week ended Saturday, Dec. 13th. The annual rate of mortality in these towns, which had been 15·8, 17·0, and 15·6 per 1000 in the three *preceding* weeks, rose to 17·0 per 1000 in the week under notice. During the first eleven weeks of the current quarter the *mean* annual death-rate in these towns averaged 15·2, against a corresponding rate of 13·7 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rate ranged from 9·2 in Ayr, 11·6 in Clydebank, and 12·0 in Kilmarnock, to 20·2 in Aberdeen, 22·3 *in Perth, and* 25·3 in Coatbridge.

The 734 deaths from all causes were 57 in excess of the number in the previous week, and included 86 which were referred to the principal epidemic diseases, against 75 and 85 in the two preceding weeks. Of these 86 deaths, 36 resulted *from measles, 17 from diphtheria, 13 from infantile diarrhœal* diseases, 12 *from scarlet fever*, 6 from whooping-cough, *and* 2 *from* enteric fever, but not one *from* small-pox. These 86 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·0, against 0·9 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 33, 35, and 40 in the three preceding weeks, declined to 36 in the week under notice; of this number 16 occurred in Glasgow, [illegible] Edinburgh, and 2 each in Green[illegible] caldy, and Clydebank. The *deaths* [illegible] which had been 10, 14, and 12 i[illegible] weeks, rose *to* 17, *and comprised* [illegible] Glasgow, and 4 in Edinburgh. The [illegible] and enteritis *among* infants under 2 [illegible] 14, 8, *and* 14 in the three *preceding* weeks, were *13 in the* week mentioned, and included 5 in Glasgow, 3 in Aberdeen, and 2 *in Dundee. The deaths attributed* to scarlet fever, which had been 6, 11, *and* 8 in the three preceding weeks, rose to 12, *and* included 6 in Glasgow and 3 in Edinburgh. The 6 deaths *referred* to whooping-cough were 2 in excess of the average in the earlier weeks of the quarter, and comprised 4 in Glasgow, 1 in Paisley, and 1 in Coatbridge. The 2 fatal cases of enteric fever were recorded in Glasgow and Aberdeen respectively.

The deaths referred to diseases of the respira*tory system*, which had been 119, 129, and 123 in the three preceding weeks, rose to 157 *in the* week under notice; 30 deaths were attributed to various forms of violence, against 26 and 23 in the *two preceding* weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with *an aggregate* population estimated at 1,199,180 persons at the *middle* of this year, 589 births and 407 deaths were *registered* during the week ended Saturday, Dec. *13th*. The annual rate of *mortality in these towns*, which had been 16·4, 16·6, and 16·0 per 1000 in the three preceding weeks, rose *to* 17·7 per 1000 in the week under notice. During the first 11 weeks of the current quarter the mean annual *death-rate* in these Irish towns averaged 17·2 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·7, while in the 16 Scotch towns it was equal to 15·2 per 1000. The annual death-rate recorded in the week under review was equal to 17·6 in Dublin (against 14·2 in *London and* 18·5 in Glasgow), 18·0 in Belfast, 21·1 in Cork, 8·9 *in* Londonderry, 12·2 in *Limerick*, and 9·5 in *Waterford*, *while* in the 21 smaller towns the mean death-rate reached 19·7 per 1000.

The 407 deaths from all causes were 40 in excess of the number in the previous week, and *included* 36 which were referred to the principal epidemic diseases, against 30 and 35

he two preceding weeks. Of these 36 deaths, 8 resulted
a scarlet fever, 8 from diphtheria, 6 from whooping-
gh, 6 from infantile diarrhœal diseases, 6 from
ne fever, and 2 from measles, but not one from
ll-pox. The mean annual death-rate from these
ases was equal to 1·6 per 1000; in the 96 large English
ns the corresponding rate did not exceed 0·9, while in
16 Scotch towns it reached 2·0 per 1000. The deaths
been 12, 5, and 13 in the
the week under notice.
The 8 deaths referred
iphtheria were 5 in excess of the average in the earlier
ks of the quarter, and included 4 in Dublin and 2 in

[illegible]

Newtownards. The 2 fatal cases of measles occurred
ublin. In addition to the above diseases a fatal case of

[illegible]

all causes, 129, or 32 per cent., occurred in public
utions, and 5 resulted from various forms of violence.
auses of 19, or 4·7 per cent.,
ed either by a registered
er after inquest; in the 96 l
n of uncertified causes of death did not exceed 0·7
nt.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

folk ed:—Fleet-
ons: with group
ps of t; A. H. H.
l to nt to the
ndia. Thunderer;
oper President,
onal, er special
; N. H. Harris to the *Weymouth*, on completing; and
H. Rooney to the *Europa*. Surgeons: J. A. O'Flynn to
be; and F. J. Burke to the *Pembroke*, additional, for
al, to the *Sirius*, on commissioning, and to the *Alert*, on
missioning.

ROYAL ARMY MEDICAL CORPS.

ernumerary Major David Harvey is restored to the
ishment (dated Dec. 1st, 1913).

INDIAN MEDICAL SERVICE.

tion of the following
nel: John Crimmin,
913). Major to be
MacLeod (dated
Hugh Barkley Steen

nt of Major Edward

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

tenant Alexander C. Court to be Captain (dated
7th, 1913).

t Sergeant Joseph Harold Baird, from the Edinburgh
rsity Contingent, Officers Training Corps, to be Lieu-
(on probation) (dated Nov. 28th, 1913).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Southern General Hospital, Royal Army Medical
aptain, whose services
Oct. 21st, 1913).
Royal Army Medical
to be Captain (dated

humbrian Divisional Clearing Hospital, Royal Army
(Honorary Lieutenant in
1st Northumbrian Field
Corps, to be Lieutenant-

Medical Units.—Captain
to be Major
resigns his

s.—George
6th, 1913).

DEATHS IN THE SERVICES.

Brigade Surgeon Edward Footner, late A.M.S., died at Westcliff-on-Sea recently. He entered the service as an assistant surgeon in 1861, was promoted to surgeon in 1873, and to

[illegible]

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

In the December issue of this journal Major J. C. B. Statham and Dr. G. G. Butler, of the West
Staff, jointly contribute a note
Liver Puncture in a case of F
Enlargement. This note, wh
permission of the Yellow Fever
curious "bodies" having the appearance of masses of protoplasm stained as a rule a light blue or grey-blue colour and containing chromatin granules or "coccoid bodies." Major A. B. Smallman contributes a note on Some Cellular Bodies found in a case of Mediterranean Leishmaniasis.
Both the
subject
Major F
dress is
article o

NOTES FOR WOMEN'S VOLUNTARY AID DETACHMENTS.

by
bec
cover the chief points in nursing and first aid based on the manuals of the British Red Cross Society, each section being

ARMY AND NAVY MALE NURSES' COÖPERATION.

The sixth annual report of this coöperation shows that
the services
ppreciated.
employed,
eipts have
amounted to £3926 7*s*. 9*d*., an increase of £206 11*s*. as compared with the previous 12 months. The institution is almost
ll necessary if the
be continued in a
e offices is 11A,
W.

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[1] Women's Voluntary Aid Detachments; Notes for Practice Meetings London: Harrison and Sons. Pp. 88. Price 1*s*. net.

As the result of the performance given by the Strolling Players' Club at the Court Theatre on Nov. 19th in aid of the Royal Dental Hospital of London, the charity has benefited to the amount of £117.

LEEDS SCHOOL OF MEDICINE: ANNUAL DINNER OF PAST AND PRESENT STUDENTS.—The thirty-fifth annual dinner of the past and present students of the Leeds School of Medicine was held at the Queen's Hotel on Friday, Dec. 19th. Mr. G. Constable Hayes was in the chair, and there was a large attendance of the staff and of the students. A very cordial welcome was given to Mr. M. E. Sadler, the Vice-Chancellor, who has, since his first connexion with Leeds, shown such a keen interest in the medical side of the University. Students are remarkably quick to see anything of this kind, and the very enthusiastic manner in which the Vice-Chancellor was received was a fitting endorsement of the high esteem in which Mr. Sadler is held by the staff, who are gratified by the assiduity with which the academic head of the University attends the meetings of the board of the Faculty In proposing the toast of the "Past and Present Students," Mr. Charles Lupton, chairman of the weekly board of the infirmary, referred to the intimate connexion which had always existed between the infirmary and the school. He commented on the causes which had resulted in Leeds being such a prominent centre of medical and of surgical knowledge while not itself what could be termed in the first rank of the provincial towns, and he attributed this to the long succession of distinguished men who had filled the position of honorary physicians and surgeons to the infirmary and to the good relationship which had always existed between the staff and the lay members of the board. The toast of "The Chairman" was proposed by Mr. H. R. Knowles and was heartily responded to by the meeting.

Correspondence.

"Audi alteram partem."

THE EBBW VALE WORKMEN'S MEDICAL SOCIETY.

To the Editor of THE LANCET.

SIR,—I have to acknowledge your courtesy in publishing my letter of Dec. 15th in your last issue and also to express regret if I implied that the matter commented upon was in one of your leading articles; it was not, but it appeared in the report of your Special Commissioner.

In response to your suggestion I have obtained from one of the leading practitioners on the panel a statement of their terms of remunerations which are as follows: (1) The capitation fees as granted by the Monmouthshire Insurance Committee; (2) the sum of 13s. per annum for the dependents of married men only; (3) the sum of 4s. per annum for boys working between the ages of 14 and 16; and (4) half a guinea for midwifery (paid by the patient).

That is to say, for every married contributor the doctor receives £1 per annum, while for single contributors he takes the full capitation fee, and for boys under 16 the sum of 4s. per annum. Widows and orphans of previous contributors are entitled free to all the benefits of the institution. All drugs and dressings are supplied by the society.

Your Special Commissioner states that during the last "great strike"—I am not quite certain as to which strike this alludes—the doctors in Monmouthshire and South Wales did not receive a penny. Again, I cannot answer for other districts, but of my own knowledge during the coal strike of some six weeks' duration in the spring of 1912 all salaries were paid punctually and fully by the Ebbw Vale Workmen's Doctors Fund. And again, during some five or six months in the autumn and winter of the preceding year, when the works were "shut down"—the works as distinct from the collieries—and the income of the fund being in consequence greatly diminished—not a doctor or an official had to wait for or went short of a penny! Moreover, in the strike in 1898, which lasted some six months, 75 per cent. of all salaries were paid by the fund.

It is worth noting, too, that under the present constitution of the committee of the Ebbw Vale Workmen's Medical Society the "panel" practitioners have direct representation on that committee when any financial matters are under discussion at its usual monthly meetings.

It is a matter for comment that while other societies are violating these "fundamental" principles without any notice of such violation being taken by the British Medical Association, the Ebbw Vale Medical Society—whichever may have been in the right in the controversy between the old Ebbw Vale Workmen's Doctors' Fund and the Association—should still remain under the public ban, nominal or otherwise, of an Association which professes to champion the cause of fairplay in professional relationships and in the relationship between the profession and the general public.

I am, Sir, yours faithfully,

HUGH N. TAYLOR, M.A., M.D., F.R.C.S.

Ebbw Vale, Dec. 19th, 1913.

THE GOVERNMENT OF THE MEDICA PROFESSION.

To the Editor of THE LANCET.

SIR,—The letters which you have recently p lished from Mr. R. Brudenell Carter and Dr. Sidne Lawrence and your leading articles on the c stitutional changes in the British Medical Asso tion and on advertising and canvassing under National Insurance Act are sufficient evidenc prove that all is not well with the governmen the medical profession.

On the one side there are men who consi that the management of affairs by those authority is hopelessly bad, and who dem representation on the governing councils, and the other side men who possess represen tion or who serve upon the governing counc The former have a strong case, but formulate th position faultily and prejudice it, and the latter frankly hopeless. Mr. Carter represents the posit adopted by the latter, who after prolonged ge tion have passed an examination which adm them to the privileges of representation governing powers. They rely upon examinatio tests as evidence of their special aptitude administrative and governing powers. Now aminations are useful only to those who h derived benefit from the course of study which examinations compel. They are useless to th who pass them and who have simply crammed examinational knowledge sufficient for a pass. is to be feared that the latter class outnumbers former. If the actions of some who represent professional government are taken as the test efficiency, surely examinational attainments things to be avoided.

It appears to many of us that those in po assume the position of the intellectual in poli and desire to exercise the function of a benevo autocracy. I am not one of those who are unabl recognise the fact that a benevol probably one of the best forms of in these days it is not satisfactory, especially w exercised by a body of men, some of them possess a high degree of examinational knowledge, a some scientific distinction, and an infinitesi number practical training in administrat Scientists at their best are very seldom who have the qualities of leaders of men or thought.

We are in need of some fresh blood in council chambers.

When the British Medical Association was rec structed some years ago I advocated strenuou that reconstruction because I hoped that a b would be formed which would be capable administering the affairs of the medical professi Having seen the completion of the machiner advocated the appointment of a secretary possessed administrative experience, and prefer some legal experience in addition. It was deci however, to appoint a man who had no such ex rience and to retain the subscription, which in opinion was inadequate for the work which was be performed.

With the appearance of the National Insura Act we have witnessed a complete fiasco. democratic constitution provided for the Bri Medical Association has failed to produce admi trators of sufficient capacity, and the reputa of the medical profession has sunk. Two type government have failed, and it has there urred to me that a blend might produce more ouraging results. A council nominated by the al Colleges, the British Medical Association, and he two Defence Societies in proper proportions ht to provide the autocratic, the democratic, and intellectual elements which are necessary. The al Colleges' are statutory bodies which were ys consulted by Government departments when required information relative to public business ected with medical affairs. These Colleges have d conspicuously in filling the place which was gned to them, and it appears reasonable that the for which they are unfitted should be taken them and assigned to such a council as I ose, and more especially in view of the fact that her has made any attempt to introduce any ocratic element into their governing councils.

I am, Sir, yours faithfully,

ell, Dec. 15th, 1913. LOVELL DRAGE.

Home and Foreign Notes.

FROM OUR OWN CORRESPONDENTS.)

SCOTLAND.

dinburgh University Graduation Ceremony.

ERE was the largest winter graduation which ver taken place at the ceremony in the an Hall on Dec. 17th, when Principal Sir m Turner conferred the degrees, 18 candidates ing the degree of Doctor of Medicine, 1 the e of Doctor of Science, 77 the degree of lor of Medicine and Bachelor of Surgery, and degree of Bachelor of Science. Principal r, in his address, described the list as a highly entative one, both as regarded the inclusion two sexes and as regarding the source from the graduates came, for there was a strong entation from India, Africa, Australasia, and est Indies, while the continent of Europe had ade contributions to their work. Prior to the ony a programme of music was performed on and organ by Mr. Collinson, organist to the rsity.

Hostels for Edinburgh Women Students.

nterview has taken place between representa- of the Scottish Education Department and cial Committee and the Edinburgh Associa- for the Provision of Hostels for Women nts, a report of which will be submitted to Edinburgh Provincial Committee for the ng of Teachers. It states that Sir John ers, the secretary of the Scottish Education tment, has asked for a conference mainly in xion with [illegible]. Whereas ovincial [illegible] apital liture wo [illegible] from funds, the contribution made on behalf of niversity would be in the form of a loan the Carnegie trustees, bearing interest, t under the scheme proposed the interest be borne by the whole body of students idence, an arrangement which would have fect of placing upon the students under ovincial Committee responsibility for a pro- n of the interest chargeable on the contribu- capital made solely for University students. explained to Sir John Struthers that the tages accruing to the Provincial Committee and their students from the combination would more than compensate for any slight increase in fees due to the interest in question, when he gave his cordial approval to the joint scheme. On account of the capital sums involved five-sevenths of the total accommodation will be allocated to the Provincial Committee and two-sevenths to the University.

Appointment of Medical Specialists.

At a meeting of the Dundee School Board held lately the following were appointed in connexion with the treatment of the children:—Dentists: H. Gordon Campbell, Dundee, and E. E. Cassaday, Broughty Ferry; eye specialist: J. Strathearn, M.D., Dundee; ear, nose, and throat: Robert P. Mathers, M.D., Dundee; and skin: George A. Pirie, M.D., Dundee.

Dec. 22nd.

IRELAND.

The Certification Question.

MEDICAL opinion in Ireland is divided at present as to the best system of certification of insured persons, assuming that the terms agreeable to the profession can be arranged between the Commissioners and the Irish Medical Committee. Many medical men, and particularly those engaged in the Poor-law service, think that a panel for certification such as is at present working in several areas will furnish the most satisfactory arrangement. On the other hand, the working of the panel has caused dissatisfaction to many of the Approved Societies, and much evidence in condemnation of it was offered to the recent committee of inquiry appointed by the Insurance Commissioners. The only alternative to the panel is a pooling system by which arrangements for certification would be made somewhat on the model of the arrangements for medical benefit at present in force in Manchester. Under a pooling scheme the entire sum available for certification in a given area would be divided among all practitioners who certified in proportion to the number of certificates signed by each. This scheme, if fairly worked, would be equitable while settling the problem of paying for the certificates of hospital patients. The pooling scheme requires safeguards to prevent too free issuing of certificates, but if the Local Medical Committees were the administrators the check of professional opinion would have considerable effect, as it would be to the interest of the local profession as a whole to prevent the giving of loose certificates. As between a panel and a pooling scheme, it might be arranged that the profession in each area should exercise a reasonably terminable option. It is to be hoped that some arrangement may be made within the next few weeks so that the entire grant promised for next year by Mr. Lloyd George may be made available.

British Dental Association: Irish Branch.

The annual general meeting of the British Dental Association was held last week in the Royal College of Surgeons, the President, Mr. Kevin E. O'Duffy, in the chair. The roll of membership showed an increase during the year. Mr. T. J. Rea, of Belfast, was elected president for the ensuing year. In the evening the annual dinner was held in the Shelbourne Hotel, the Lord Lieutenant being present.

Dec. 22nd.

with recently. Four complaints of neglect were found to be unsubstantiated; in two cases there was a conflict of evidence and no action was taken. The Medical Service Subcommittee found to be proved an allegation against a practitioner that he adopted an offensively familiar attitude towards a woman patient, and that he gave advice of an improper and unprofessional character. Mr. Warburg, the chairman of the subcommittee, said the question was being considered whether censures could be made more effective in cases of professional misconduct by making communications to the Local Medical Committee or possibly the General Medical Council. The committee declined to reopen the question of the distribution of the unallotted funds in order that a resolution to rescind the previous decision to take further legal advice might be moved.

CLAUSE 2 (ii.): ACTION IN EAST SUFFOLK.

On Dec. 16th, at a meeting of the East Suffolk Insurance Committee, Dr. T. Cuming Askin remonstrated against the haste in which the new agreement had been placed before the profession, and proposed that the Committee should agree to the following words being inserted in the agreement, which words had been accepted by the Commissioners in connexion with another committee:—

> That nothing in the agreement shall be considered as prohibiting the acceptance by a practitioner of such fees as may have been agreed to between them in writing as a condition of the acceptance by the practitioner of the insured person where the places of residence of the practitioner and the patient are so situated that the access is difficult or inconvenient, and where there is another practitioner on the panel living nearer to whom the patient might be assigned.

The proposal was not accepted, and in the end a long resolution prepared by the clerk to the Committee was adopted, which ran as follows:—

> That in order to remove doubts which have arisen as to the construction which may be placed upon Clause 2 (ii.) of form Med. 29 (revised), this committee would, where circumstances justified, and subject to the approval of the Medical and Sanatorium Benefits Subcommittee being obtained on each separate case submitted to them, consider the clause to mean that nothing in Clause 2 (ii.) of the agreement shall be read as prohibiting the acceptance by the practitioner from an insured person of such fees as may have been agreed between them in writing as a condition of the acceptance by the practitioner of the insured person where the places of residence of the insured person and the practitioner are so situated that access between them is by reason of distance or otherwise difficult or inconvenient, and where there is another practitioner upon the panel by whom the insured person might have been accepted, or to whom he might have been assigned, and whose residence is nearer to that of the insured person, or is less inconvenient of access, subject, however, to the proviso that it must be clearly understood that the passing of this resolution will not in any way admit the right of the practitioner to claim fees in these or in other circumstances, but will merely enable him to enter into an agreement with the insured person who desires and offers to do so in the circumstances indicated.

Dr. Askin then asked the Committee to agree to a minute:—

> That the phrase "accept any fee or other remuneration" does not include a present or a gift made by an insured person to a doctor.

This minute, the principle of which had been agreed to by the Middlesex Committee, was eventually adopted. Although, therefore, the desired
amendment cannot be inserted in the
ment, every practitioner on the panel
stand his position from the minute.

COMPLIMENTARY DINNER TO DR. C. ADD

The Chancellor of the Exchequer will
a complimentary dinner to Dr. Addison,
on Feb. 3rd, 1914. Application for tick
be made to Sir John Collie, M.D., 25, P
terrace, London, W., or to Dr. H.
21, St. Mary Abbot's-terrace, Kensington.

Medical News.

EXAMINATION RESULTS.—The result
December examinations at the Universitie
Manchester, Liverpool, and Leeds, and at the
Apothecaries of London will be given next,
demands on our space prevent their appearance

HARVEIAN SOCIETY.—The annual gen
ing of the Harveian Society of London will
Thursday, Jan. 8th, 1914, at the Stafford Room
street, Edgware-road, W., when the officers
year will be elected, and reports will be receiv
treasurer and honorary secretaries. Dr. Leon
will deliver his presidential address on the E
tions of the Harveian Society. The new presi
invested and the proceedings will terminate wit
concert.

THE BEIT FOUNDATION FOR MEDICAL
—At a meeting of the trustees of the Beit Mem
ships for Medical Research, which was held on
the following were elected to Fellowships. Each
is of the annual value of £250, and the usual
three years, with in exceptional cases possib
for one year:—J. O. W. Barratt, M.D. Lond.
research: Study of substances contained in or
blood plasma, to be carried out in Lister Insti
ventive Medicine). Myer Coplans, M.D. L
Medicine (proposed research: Study of imm
reference to action of silicates, to be carr
the Lister Institute). E. C. Grey, B.Sc. S
posed research: Bacteriological Chemistry, to
out in the Lister Institute). J. R. Marrack, M
(proposed research: Chemical pathology of arthrit
to be carried out at the *Cambridge Research*
V. H. K. Moorhouse, *B.A. Univ.* Toronto, Ge
Memorial Scholar (proposed research: Met
animals with special reference to diabetes, to
out in the Institute of Physiology of the
of London). G. E. Nicholls, A.R.C.S., D.Sc.
posed research: Investigation of the structu
sub-commissural organ and Reissner's fibres an
of the pineal region of the brain, to be
at King's College, London). Annie Porter,
(proposed research: Parasitic entozoa, to be ca
the Quick Laboratory, Cambridge; the Liverpo
Tropical Medicine; and, if possible, the King
Preventive Medicine, Madras, or the Wellco
Laboratories, Khartoum). J. G. Priestley,
(proposed research: Factors concerned in the
the excretion of urine, to be carried out at the
Department of the University of Oxford). Ja
son, M.B. Glasg. (proposed research: Comparat
and physiology of the heart and the study of t
nervous system, to be carried out in the Victo
Glasgow). Marjory Stephenson, Cambridge Na
Tripos, Part I. (Chemistry, Physiology, and Z
posed research: Metabolism of fats and its
carbohydrates, to be carried out in the
Physiology, University College, London). J.
M.B. Edin. (proposed research: Toxins an
in protozoa, to be carried out in the Liste
At the same meeting Dr. F. Gowland Hop
reader in chemical physiology in the Univers
bridge, and praelector in biochemistry at Tri

a member of the advisory board in the place Osler, Bt, F.R.S., resigned, and the Francis ics Laboratory was recognised as a place of was also announced that Mr. Thomas Renton Camb., *one of the Fellows*, had been elected a Royal Society.

LITAN HOSPITAL SUNDAY FUND.—In le absence of the Lord Mayor, Sir John Bell e annual meeting of the constituents of this was held at the Mansion House on Dec. 19th. ated that *the year's collection*, the forty-first, in a total of £64,991 15*s.* 1*d.*, a decrease of red with last year. The collections in the of worship had resulted in a sum of £28,434, less than in 1912. A portion of this decrease for by the discontinuance of the practice of ions to the amount of about £4000 to the St. Paul's Cathedral. The net falling church collections is about £3000. In a port the council view with apprehension the ling off in the church collections, which not ardly on the hospitals, but also upon the clergy [illegible] the [illegible] and [illegible] the [illegible] who at notwithstanding the falling off in the collec- s places of worship a larger sum of money had ed than in previous years, owing largely to the agement of the finance committee, the report Vacancies on the council having been filled re-election, *Hospital Sunday for* 1914 was fixed th, and a vote of thanks to the chairman e proceedings.

Appointments.

[illegible] of Public Institutions, [illegible] for this column, are [illegible] directed to the Sub- later than [illegible] o'clock on the Thursday morning of each nformation for gratuitous publication.

[illegible] been appointed [illegible] Acts for the

[illegible] ical Assistant

[illegible] R.C.P. Lond., [illegible] Leeds Public

[illegible] has been reappointed

[illegible] ointed House

[illegible] orary Surgeon [illegible] or Women and

[illegible] has been appointed

[illegible] ointed

[illegible] ointed

[illegible] Medical

[illegible] linical [illegible] tal. [illegible] ifying [illegible] elfast.

[illegible] linical [illegible] tal [illegible] been

[illegible] d., has [illegible] omen.

[illegible] P. & S. [illegible], has been appointed Surgeon to the Troedyrhiw [illegible] of Workmen of the Hills-Plymouth & Cyfartha

[illegible] A., M.R.C.S. Eng., L.R.C.P. Lond., has been Honorary Consulting Ophthalmic Surgeon to the Leeds [illegible] pensary.

[illegible] RED, M.S. Lond., F.R.C.S. Eng., has been appoint[illegible]

[illegible]

Flint.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with lodging, board, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Dental Surgeon.

BIRMINGHAM CORPORATION CITY SANATORIUM, Yardley road, and ANTI TUBERCULOSIS CENTRE, Broad street.—Junior Assistant Resident Medical Officer. Salary £200 per annum, with board, residence, &c.

BRENTFORD UNION INFIRMARY, WORKHOUSE, AND SCHOOLS, Isleworth, [illegible] washing.

[illegible] gate House, York [illegible] the Laboratories.

[illegible] Salary £250 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—House Physician. Salary £110 per annum, with residence, board, laundry, and attendance.

CROYDON BOROUGH HOSPITAL.—Senior Resident Medical Officer and Bacteriologist. Salary £160 per annum, with board, lodging, and washing.

[illegible] sis Officers.

[illegible] ouse Surgeon [illegible] with board, [illegible] al Assistants

[illegible] nd Assistant

[illegible] eon Salary

[illegible] t Assistant [illegible], with apart- [illegible] ant Medical [illegible] rations, and washing.

[illegible] COUNTY HOSPITAL.—House Surgeon. [illegible] h board, residence, and laundry. [illegible] icer for E and F Out-relief Districts.

[illegible]—Third House Surgeon, unmarried. [illegible] residence, board, and washing.

[illegible] TAL.—Senior House Surgeon. Salary [illegible] nce, board, and washing. Also Assistant

[illegible] Medical

[illegible] months.

[illegible] ary £220

[illegible] Children.

[illegible]—Senior

[illegible] Medical

[illegible] Surgeon.

[illegible]—Junior [illegible] annum,

[illegible] Queen-

[illegible] Officer. [illegible] ndance,

[illegible], Park- [illegible] eon for Women.

METROPOLITAN HOSPITAL, Kingsland road, N.E.—Junior Dental Surgeon.

[illegible] AND EPILEPTIC Queen-

[illegible] apartments, &c.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, residence, and laundry.

Notts County Council, Ransom Sanatorium, Sherwood Forest, Mansfield.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

Plymouth, South Devon and East Cornwall Hospital.—House Physician for six months. Salary £90 per annum, with board, residence, and washing.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at [illegible] ence, and washing.

Qu[illegible] -road, Bethnal Green, E.— [illegible] with board, residence, and washing.

Richmond, Surrey, Royal Hospital.—House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Rochdale Infirmary.—Second House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

Royal Free Hospital, Gray's Inn-road, W.C.—Assistant Physician.

Royal London Ophthalmic Hospital.—Third House Surgeon. Salary at rate of £50 per annum, with board and residence.

Ryde, Royal Isle of Wight County Hospital.—Resident House Surgeon, unmarried. Salary £125 per annum.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer for six months. Salary at rate of £70 per annum, with residence, board, and laundry.

Southwark Union Infirmary, East Dulwich-grove, S.E.—Second Assistant Medical Officer. Salary £120 per annum, with board, lodging, and washing.

Swansea General and Eye Hospital.—Third House Surgeon. Salary £125 per annum, with board, washing, and attendance.

Taunton Rural District Council.—Medical Officer of Health. Salary £110.

Taunton, Somerset and Bath Asylum, Cotford.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, attendance, &c.

Throat Hospital, Golden-square, W.—House Surgeon. Salary £75 per annum, with board, residence, and laundry.

Walsall and District Hospital.—Assistant House Surgeon. Salary £110 per annum, with board, residence, and laundry.

Warwick County Asylum, *Hatton, near Warwick.—Second Assistant* Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and laundry.

Willesden Urban District Council.—Assistant Medical Officers of Health and Assistant School Medical Officers (two). Salary £300 per annum each.

Wilts County Asylum, Devizes.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, attendance, and laundry.

Winchester, Royal Hampshire County Hospital.—House Physician. Salary £80 per annum.

Windsor, King Edward VII. Hospital for Windsor, Eton, and District.—Assistant House Surgeon. Salary £75 per annum, with residence, board, laundry, and attendance.

Worcestershire County Council.—Two Assistant Tuberculosis Officers. Salary £300 per annum.

York County Hospital.—House Physician for six months. Salary at rate of £100 per annum, with board, residence, &c.

The Secretary of State for the Home Department will appoint a Specialist Medical Referee under the Workmen's Compensation Act, 1906, to act in all Aural cases arising in the Sheriffdom of Lanarkshire in which the services of a Medical Referee are required. Applications should be addressed to the Private Secretary, Scottish Office.

⁂ The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of The Lancet.

Births, Marriages, and Deaths.

BIRTHS.

Barnes.—On Dec. 15th, at Eye, Suffolk, the wife of Henry E. Barnes, M.D. Lond., of a daughter.

Cunningham.—On Dec. 13th, at Boksburg, North Transvaal, the wife of Norman Rowsell Cunningham, M.R.C.S., L.R.C.P., B.A. Cantab., of a son.

Fernie.—On Dec. 13th, at Crooms-hill, Greenwich, the wife of C. H. Fernie, M.R.C.S., L.R.C.P., of a son.

May.—On Dec. 19th, at Woodleigh, Ware, Herts, the wife of George E. May, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

Garnett—Crawford.—On Dec. 18th, at the Cathedral, Glasgow, Graham Hogg Garnett, M.D., to Susan, youngest daughter of the late James Crawford, of Shawton, Glassford, and Mrs. Crawford, of Stonelaw Tower, Rutherglen, N.B.

Hayman—Atwood.—On Dec. 18th, at St. Barnabas Church, Tunbridge Wells, Charles Augustine Hayman, J.P., M.D., F.R.C.S., to Elizabeth Caroline, daughter of the late Captain Atwood and Mrs. Atwood, of Brixton.

DEATHS.

Harris.—On Dec. 15th, at Mildenhall, Suffolk, Frederick Hills Harris, M.R.C.S., L.S.A., in his 91st year.

Rutter.—On Dec. 16th, at Wilbury-gardens, Hove, Joseph Rutter, M.D., in his 80th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and to Correspondents.

VITAL STATISTICS OF THE GOLD

In his report *on the Blue-book* of the Gold Coa
its dependencies for the year 1912, Mr. W. C.
Acting Colonial Secretary, gives the populati
the number of Europeans being 2367. Am
there were 28 deaths. These *included* 8
2 cases death was due to yellow fever; in 2
fever, *and in 2 to malaria, the remaining* 2
non-climatic causes. Thirteen European
invalided during the year owing to: malaria,
fever, 2; neurasthenia, 2; adenitis, 1; neuritis,
Sixty-two non-official Europeans were
malaria, 22; blackwater fever, 6; dysentery, 6
gastritis, 2; various, 23. The total number
coming under treatment was 1004, as
1911. No means exist whereby accurate
lating to the health of natives can be
returns show that the number of
hospital and dispensary treatment was 25,964,
than in the previous year. Treatment was
cases of malaria, 1931 of helminthic diseases
dysentery. There were several outbreaks of
the eastern province of the colony, and
also occurred in the central and western pr
number of successful vaccinations performe
There were 104 cases of sleeping sickness re
the year with 3 deaths. There were 3 cases o
among natives in Accra, all of whom recover
European hospital at Accra has not yet be
but the existing hospital, which comprises 3
4 *native* wards, containing 7 and 25 beds
was made mosquito proof. The hospital
consists of 6 European wards, including 2 for
with a total of 16 beds, while for native pa
with 20 beds are provided. At Cape Coast th
modation for 13 Europeans, and 4 wards cont
for native patients. At Coomassie there is
hospital with 4 wards, and a native h
3 wards. European nursing sisters are at
Accra, Seccondee, and Coomassie hospitals
a lunatic asylum and a laboratory at
special sleeping sickness hospital at Anum.
conditions under the sanitary branch of
department show generally a marked impr
the inadequacy of *water-supplies* remains
difficulty. There is a *pipe-borne* supply
Ashanti, and waterworks at Accra *and* Sec
course of construction. The climate, *though* h
is cooler than that of most tropical countri
similar latitudes. It is not in itself unhealth
reputation has been earned for it in the past
lence of mosquito-borne diseases, against whic
precautions have constantly *to be taken.* The
is marked by a considerable *fall in the temper*
is found to be refreshing *to* many European
trying to some.

H. B. asks where he could obtain a cheap reprod
picture, "The Doctor," by Sir Luke Fildes.

Communications not noticed in our presen
receive attention in our next.

A DIARY OF CONGRESSES.

The *following* Congresses, Conferences, and Exhibitions
In 1914:—
April 14th–18th (New York).—Fourth Congress of th
Surgical Society.
" 20th–23rd (Wiesbaden).—Thirty-first German
Internal Medicine.
May 1st–Nov. 1st (Lyons).—International Town Lif
July 6th–11th (Blackpool).—*Twenty-ninth* Congre
Sanitary Institute.
" 8th–13th (Edinburgh).—Congress of the Ro
Public Health.
Aug. 3rd–8th (London).—Sixth International Dent
" 10th–15th (St. Petersburg).—Twelfth Interna
of Ophthalmology.
Sept. 7th–12th (Berne).—International *Congress*
Psychiatry, and Psychology.
September (Vienna).—Third International Congr
of Occupation.
(London).—Anglo-American Exhibition.
(Aberdeen).—Eighty-second Annual Meeting of the
Association.
(Auckland, N.Z.).—Australasian Medical Congress.
(St. Petersburg).—Third Mendeléeff Congress of P
Chemistry and Physics.

Diary for the ensuing Week.

[illegible]

—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical Surgical Clinics. X Rays. Mr. Armour: Operations. Pritchard: Bacterial Therapy Department. 2.30 P.M., Dunn: Diseases of the Eye.

—10 A.M., Dr. Robinson: Gynæcological Operations. Medical and Surgical Clinics. X Rays. Mr. Baldwin: ations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Pernet: Diseases of the Skin.

DAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Operations of the Throat, Nose, and Ear. 2 P.M., cal and Surgical Clinics. X Rays. Mr. Pardoe: Opera. Mr. B. Harman: Diseases of the Eye. Dr. Simson: ases of Women.

[illegible]

Mr. Pardoe: Operations.

EDITORIAL NOTICES.

st important that communications relating to the usiness of THE LANCET should be addressed "TO THE EDITOR," and not in any case to any who may be supposed to be connected with the aff. It is urgently necessary that attention should this notice.

lly [illegible] *intelligence of local events* [illegible] *hich it is desirable to bring* [illegible] *sion, may be sent direct to* e.

iginal articles, and reports should be written on of the paper only, AND WHEN ACCOMPANIED KS IT IS REQUESTED THAT THE NAME OF THE , AND IF POSSIBLE OF THE ARTICLE, SHOULD TTEN ON THE BLOCKS TO FACILITATE IDENTI-N.

ther intended for insertion or for private informa-st be authenticated by the names and addresses of ters—not necessarily for publication.

rescribe or recommend practitioners.

containing reports or news paragraphs should be nd addressed "To the Sub-Editor."

to the publication, sale, and advertising nts of THE LANCET *should be addressed "To the* ."

take to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

and Title-page for the current half year are this issue, which completes the second volume 1913.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1913 will be ready shortly. Bound in *cloth, gilt* lettered, price 16s., carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by *post* 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rates of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, *Covent Garden* Branch") should be made payable *to the* Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 22nd, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo	Maximum Temp. Shade	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks
Dec. 16	30·13	W.	...	65	50	47	44	47	Fine
" 17	30·36	N.	...	59	50	46	43	46	Overcast
" 18	30·51	N.E.	...	61	46	42	43	44	Overcast
" 19	30·53	N.E.	...	49	45	35	35	37	Cloudy
" 20	30·53	N.E.	...	52	63	37	38	39	Cloudy
" 21	30·64	N.E.	...	44	44	35	34	36	Cloudy
" 22	30·44	S.W.	...	40	39	35	38	37	Overcast

munications, Letters, &c., have been received from—

nd Bute Asylum, d, Clerk to the; [illegible]

Dr. M. Ap Iwan, H. Atthill-Crutt-t. [illegible]

The Commercial Motor, Lond.; Dr. E. M. Cuffe, Parkstone; Messrs. J. and A. Churchill, Lond.; Crewe Borough, Medical Officer of Health of; Chester County Asylum, Secretary of; Mr. H. A. Collins, Croydon; Sir J. Collie, Lond.; County Hospital, York, Secretary of; Dr. J. A. Clarke, Dunoon; [illegible]

Coppinger, Dibrugarh, India; Mr. J. Chronnell, Hindley; Mr. M. B. Cooper, Lond.; Messrs. [illegible]

J. J. E. Esslemont, West Southbourne.

F.—Mr. H. W. Furnivall, Exeter; [illegible]